

Change financing of foreign students-MP

by Sue Reid

A radical change in the method of financing overseas students in Britain has been called for by Mr William van Straubenzee, former Minister of State for Higher Education. He has appealed for foreign students to be financed out of the overseas aid programme instead of the education budget.

Speaking at Newbury, Mr van Straubenzee, Conservative MP for Wokingham, said that more than 62 per cent of foreign students in British universities were from developing countries.

"This leads me to suggest that we should consider a radical revision of the manner in which we finance this effort. While of course the effort is educational in the sense that it is the educational service that looks after the students, the financial effort is more properly one of overseas aid."

Accordingly, he said, the programme would be more appropriately financed out of the overseas aid budget and removed from the educational one. Such a change, he added, would be a response to the recent call by Mr Prentice, Minister of State for Overseas Development, for a change of emphasis in Britain's aid policies.

It was understandable that when an educational system was under strain, it should be heard calling for a reduction in the number of overseas students or sharp increases in the fees they paid. This, said Mr van Straubenzee, was more understandable when the increase in the number of overseas students in recent years was realized.

However, while calling for a change in administration, it was important not to let pressing economic difficulties stampede Britain into invidious cuts in aid in terms of overseas students. These students contributed to the universities and colleges where they studied.

In a parliamentary debate on overseas aid on Friday Mr van

Straubenzee repeated his demand that the responsibility for financing foreign students should be transferred from the Department of Education and Science to the Ministry of Overseas Development.

In answer Mr Bryan Davies, parliamentary private secretary to Mr Mulley, Secretary of State for Education, said there had to be an interdisciplinary approach to the problems which Third World societies were facing.

This required a shift from a research contribution operating in rather narrow channels to a wholly new perspective directed to the problems of rural development. He recognized the contribution already being made in this respect by the universities of Reading and Sussex.

Mr Davies criticised the Technical Education Council for not making sufficient impact upon areas of education below higher education and added that the rather limited role of colleges of education should be developed to provide the basic education necessary in the context of developing societies.

The "open door" feature of the British education system with regard to higher education opportunity was praised by Mr Davies, but he added that the policy should be extended to enable students at lower levels to gain access to educational opportunity.

The National Union of Students this week claimed that a campaign was under way to drive foreign students out of the country. It alleged that "now and frightening" restrictions had been introduced in Britain designed to harass overseas students.

The coincidence of extra regulations, added charges, tighter restrictions and public attacks by politicians could hardly be accidental, said the union.

The NUS quoted a letter from the Department of Employment which claimed that if British-born labour were available for vacation jobs, foreign and Commonwealth students



Mr van Straubenzee.

would have to be refused. This, said the union, made the possibilities for overseas students without private incomes very bleak.

It cited Sunderland Polytechnic, Mid-Essex Technical College, Bradford University and Leicester Polytechnic as institutions where overseas students were paying much higher hostel fees than home students.

It also claimed that a confidential document from the Inner London Education Authority had called on colleges not to increase their foreign student intake.

Mr Charles Clarke, NUS President, said last week: "The British Government is clearly adopting a policy of only giving education to that tiny minority of Third World students who can afford massive fees."

"This is bad for education in this country. It destroys any belief that Britain wishes to help Third World countries which have been exploited by British business for hundreds of years. It contradicts directly the principle of aid for the poorest to which the Ministry of Overseas Development has given priority."

City University overstaffed, vice-chancellor says

by Alan Cane

City University is substantially overstaffed and needs more students and more and better research, Dr E. W. Parkes, the vice-chancellor, says in his annual report, published this week.

He points out that the university has been particularly vulnerable to the swing away from science among sixth formers and says: "Some departments have maintained their undergraduate numbers successfully, but others have failed to do so. As a result the university is substantially over-staffed in relation to its student population."

The report shows that City has a full and part-time undergraduate population of 1,824 and a postgraduate population of 566. On this basis the overall staff-student ratio is about 1:7. The overall staff-student ratio for British universities is about 1:9.

Seminar told of Chilean torture

The National Union of Students staged a three-day seminar this week to examine the plight of students and academics in Chile since the coup of 1973. The NUS claims that both groups have suffered torture and repression and is now calling for an international programme of action to isolate the Right-wing military junta in power.

The seminar, jointly organised by the NUS, the International Union of Students and the Committee of Presidents of the Federation of Universities in Chile, was attended by 90 delegates, both academic and student, representing more than 50 organizations throughout the world. Its objective was to highlight the alleged violation of rights of British students and academics during the past two years, the structure of the Chilean education system and the alleged torture and repression by the military.

Mr Alejandro Rojas, the exiled president of CPFUCh, the Chilean

'Professors are worth £20,000 a year'

by David Walker

An economics professor this week devoted his inaugural lecture to explaining why university professors should earn close on £20,000 a year. He concluded his lecture with an attack on the Association of University Teachers, saying that academics would be better advised to pay their union dues to Oxfam.

Professor G. D. Newbould, of the Management Centre at Bradford University who specializes in managerial economics, used slides and diagrams to explain what had happened to the Government's success in dealing with inflation. He said the staff side, he complained, was in competition with the public sector and the professions means it is difficult to attract candidates of adequate calibre for academic posts.

Dr Parkes says the university must develop new courses to attract more students, utilizing only its staff at present in post. "Some and in order to free staff for new developments, we must cease to offer courses and options where the number of students does not justify the manpower involved."

He says the volume of research in the university is too low, and the favourable staff-student ratio should allow an increase in research and postgraduate work.

Dr Parkes says that because the university has been allocated a fixed sum for 1975-76 its fortunes depend entirely on the Government's success in dealing with inflation. He said they had lost at least £3,500 and perhaps as much as £11,000.

On one scale of salary comparison, he calculated that professors should get £12,500 in 1975 to keep pace with inflation. However, if a professor's current salary were adjusted to include an average share in the real growth of the economy together with an allowance for price changes between 1965 and today, he should get £19,411.

To keep abreast of a manual worker's average earnings since 1965, the professor's salary would have to increase by nearly 120 per cent.

Professor Newbould made many salary comparisons with that of a

professor in 1965. A hospital administrator or civil servant on £4,000 then would now be getting £12,720 and £11,000 respectively. The professor gets £8,968.

In a comparison of lifetime earnings, Professor Newbould found that a manual worker has money early in his career, but reaches a peak quickly and then declines. The aspiring professor has no income while a student and then progresses through incremental salaries.

If a typical manual worker and a professor both invested their earnings at 7 per cent, the professor would have 47 years old before his accumulated balance catches up with the manual worker's.

He then drew conclusions from his tables and graphs. First, university standards would fall as a consequence of rewards declining. Lecturers and professors would either leave for better paid careers or emigrate.

Professor Newbould added that university teachers would have been better off with a Whitley Council—an arrangement for protecting the interests of unrepresented workers. The Teachers' Union probably have served them better than the Department of Education, letters page 16

Lecturers see danger in closed shop

by Peter Wilby

Some university and polytechnic lecturers believe that the dangers of closed shops being imposed in higher education are even greater than in the press.

The Association of Polytechnic Teachers is considering a major publicity campaign on the issue. Mr A. J. Poinson, the APT's publicity officer, said: "Many people in higher education have two functions: teaching and management."

"If the closed shop were imposed, and there were any conflict between these functions, the trade union would be able to resolve it to its advantage without any recourse to arbitration, simply by using its disciplinary powers. Can you imagine what would have happened to the authors of *The Reason* if there were a closed shop?"

Mr Poinson said that recent incidents at the polytechnics of North London and the South Bank were a warning. In both cases, heads of departments opposing the union line could have been expelled and thrown out of a job.

"If we have a closed shop in higher education, unions will be able to win cases like these by threatening the removal of membership," said Mr Poinson.

The Association of Teachers in Technical Institutions, the major union in polytechnics and further education colleges, has been, in principle, in favour of compulsory union membership since 1970. At its conference this year, the executive was instructed to prepare, for the following year, a detailed plan, making membership of a professional association a necessary condition of employment for all teachers in further education.

The definition of a professional association is one that is represented on the Burnham Further Education Committee. This includes three other unions besides the Association of Principals in Technical Institutions, the National Society for Art Education and the National Federation of Continuity Teachers' Associations—but not the APT.

In 1971, however, with the advent of the Conservative Party's Industrial Relations Act it was agreed to defer a decision on the closed shop. Now, the Labour Government's Trade Unions and Labour Relations (Amendment) Bill will, if passed, remove the restrictions on the closed shop and alter the law back to what it was before 1971.

The law will not impose closed shops but unions will be free to

Tories and NUS united on parents' grant contribution

The Conservative Party and the National Union of Students joined hands this week on the question of abolishing parents' contributions in student's grant.

Mr Norman St John-Stevens, Opposition spokesman on education, promised that a Conservative government would abolish the parental contribution and welcomed recent statements from the NUS which were "fully in accord with Conservative policy."

He said: "There is no justice in a situation where students are deprived of their full grant because of the existence of a notional contribution which many parents are either unable or unwilling to pay. The financial plight of students is all the more acute because of the drying up of vacation jobs because of the recession."

Another source of strain on students was the lack of accommodation. Mr St John-Stevens blamed the 1974 Rent Act. He said student accommodation should be exempt from its provisions.

Mr St John-Stevens, speaking at the Mid-Essex Technical College in his constituency at Chelmsford, then reiterated the high regard of the Conservative Party for the universities, developing points he has made in a number of recent speeches.

He argued that universities were threatened from within and from the outside. Public support for them had been eroded by the violence and intolerance of unrepresentative student minorities. Instead of offering support, the Government in the guise of Lord Crowthurst had offered only the "superstitions and incalculables of manpower planning."

Mr St John-Stevens said the universities were serving the nation well, coping with increased student numbers from less and less resources. Their achievements were being jeopardized by inadequate public funding at the very time when support from private sources was also drying up.

He paid tribute to the universities' research work without their advanced work the discipline and exploitation of oil in the North Sea would never have been possible, he said.

NEXT WEEK

Denis Donoghue on T. S. Eliot's *Anthropology* books
Patrick Nutgens: schools and polys
Trevor Marshall: Are university teachers working class?
Profile of Arthur Vick

Lend lecturers to schools call

A dean of science has proposed that university lecturers in departments short of students might be seconded to secondary schools with a shortage of teachers.

Professor A. K. Holliday, Grant professor of inorganic chemistry at Liverpool University, has written to all five local education authorities on Merseyside suggesting that university teachers might be seconded to local schools for up to a year.

His scheme has the blessing and encouragement of Dr T. C. Thomas, Liverpool's vice-chancellor. Professor Holliday's letter suggests three ways in which the university could help the schools.

● "A school may be temporarily deprived of a teacher at a critical stage in the pupils' A-level course; here a university teacher could help at relatively short notice.

● "In a particular geographical area, more than one school may be short of teachers; the university teacher could offer his services to the schools either by visiting each school or by teaching at one centre to which the pupils come.

● "Pupils from several scattered schools might be brought together at a convenient centre (possibly the university) for teaching; if there is a general shortage of appropriate teachers in such schools."

Future Workshops from UTMU

Simulations Workshop. This workshop is an attempt to respond to the growing demand for more information about, and skill in, the design and operation of simulations, games, etc., and will be concerned with simulations as a form of classroom learning. It aims to provide participants with opportunities to become familiar with the range of existing materials; to evaluate the use of simulations for their own teaching; to experience the benefits and difficulties associated with simulation methods; to get some experience of actually running a simulation.

4/5 December 1975. Fee £16

Student Selection and Recruitment. This short course is intended for academic and administrative staff involved in the selection of students. Both the organization of recruitment and selection procedures and the conduct of interviews will be considered. Participants will be invited to work on a scheme of selection and recruitment suitable for their own departments. They will also interview a number of students as though they were university applicants, this session being recorded on video-tape in order to allow for the structure and technique of the interviews to be considered.

15/18 December 1975. Fee £26

Effective Lecturing. This course is designed to help lecturers in higher education recognise and develop their skills in lecturing whilst maintaining an awareness of the shortcomings of the lecture method. With the use of video-tape participants will be encouraged to develop a model for self-improvement which they can operate at leisure in their home institutions. Participants may also examine their skills in delivery with close guidance from effective speaking tutors.

5/7 January 1976. Fee £18.50

Details of all 3 workshops, plus the programme for UTMU spring study groups, can be obtained from Gwen Heath, at the University of London Teaching Methods Unit, 55 Gordon Square, London WC1H 0NT, telephone 01-580 6451.

British Association for Commercial and Industrial Education

BACIE is holding a special national conference with the co-operation of the Manpower Services Commission and the Training Services Agency on: (1) The short-term steps being taken by the Government in face of growing unemployment of young people; (2) The longer-term proposals contained in the MSC/TSA discussion paper *Vocational Preparation for Young People*.

17 December 1975 at the Royal Lancaster Hotel, London W2

Chairman: Sir Denis Barnes, KCB

Chairman, Manpower Services Commission

Other speakers include J. S. Casals, Chief Executive, Training Services Agency; M. O. Bury, OBE, Director of Education, Training and Technology, CBI; Mrs M. Patterson, OBE, Immediate Past Chairman, TUC General Council; and F. Metcalfe, CBE, Director, Engineering ITB.

bacie publications

A Guide to the Writing of Business Letters. 8th ed. 14th (rev) impression, 1973. 20pp. 70,000 copies. 10p.

A Guide to the Use of the Telephone in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Typewriter in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Calculator in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

Interviewing in 20 Steps by J. S. Gough. 8th ed. 1973. 10pp. 65,000 copies. 10p.

A Guide to the Use of Visual Aids by L. S. Powell, OBE. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Instrumental in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Calculator in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Calculator in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Calculator in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Training Officer's Guide to Discussion. 8th ed. 1973. 20pp. 65,000 copies. 10p.

A Guide to the Use of the Calculator in Business. 8th ed. 1973. 20pp. 65,000 copies. 10p.

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Magnus Magnusson is new rector

Mr Magnus Magnusson, the Icelandic scholar and television presenter, has been elected the new rector of Edinburgh University. His election breaks the four year reign of student rectors at the university.

Mr Magnusson polled 2,414 votes, putting his nearest rival, Mr Alan Drummond, expected to be the favourite, into second place. Mr Drummond, who collected 1,731 votes, is a postgraduate student at Edinburgh and has held the post of rector's assistant for the past three years.

Third was Mr David Steel, the Liberal MP, with 883 votes.

Professor Linnett dies

Professor John Wilfrid Linnett, FRSE, Master of Sidney Sussex College, Cambridge, died suddenly of a heart attack in London on Friday, only five weeks after coming to be vice-chancellor of the university. He was 62.

A memorial service for Sir James Cook, former vice-chancellor of Exeter University, was held on Monday in the Mary Herries Memorial Chapel, Exeter. The Rev. K. C. Moss, chaplain of Exeter University, officiated and Professor Henry Kay, vice-chancellor of Exeter, read the lesson.

New sixth-form exam proposed

The Schools Council this week announced its plans for a new intermediate sixth-form examination to be taken a year after O level and the Certificate of Secondary Education.

The new examination, the Certificate of Extended Education, was "unlikely" ever to be offered as a university matriculation qualification, according to a consultant spokesman. However, it might be offered by students applying for sub-degree courses in the polytechnics and institutes of higher education.

Yesterday the proposals were discussed by a meeting of the standing conference on university entrance, which includes representatives from all universities. It heard that the Schools Council aimed the new qualification at pupils staying on after taking CSE who wished for some recognition of their extra year in school.

The proposals have been greeted with the usual range of information. Many lecturers are confused about the state of the Schools Council's proposals for reforming O and A level.

Mr A. H. Jennings, chairman of the Schools Council's joint examinations sub-committee, said the new examination should be started as soon as possible without waiting for O and A level reform.

THE J

Stephen Pile visits Britain's first cartoon archive, at the University of Kent For joke see marriage, dogs, fashion or goldfish

In two small rooms Dr Graham Thomas keeps the history of Britain in jokes, quips, libels and speech balloons. Thanks to Prince Albert, Fleet Street generosity and a chance conversation he now collects newspaper cartoons with an enthusiasm that has pushed his own research to one side.

Traditionally the British newspaper cartoon, as we know it, was invented by accident in 1843. Prince Albert is said to have held a competition to decorate the newly completed Houses of Parliament with frescoes. The submitted cartoons—in the original sense of initial sketches—proved conclusively that this was an art lost to British practitioners.

The sight of so much pretension flailing about in misplaced heroic dimensions sparked the now *Punch* magazine to ridicule. It commissioned John Leech to draw a selection of "Mr Punch's cartoons".

Then, 129 years later in 1972 Dr Thomas was in the International Publishing Corporation library at Holborn to see if there was any light on his research into politics in the two world wars. A chatty attendant let slip that many of them had been thrown away and Dr Thomas left with a grand obsession.

For him cartoons are the grotesque ante-room of history in which, rather than the moods and prejudices that lie unspoken behind the official record of time, his idea was to gather them all so that scholars could have easy access to this rich vernacular background.

He scoured Fleet Street offices and found great willingness to donate, without charge, stacks of cartoon originals. Dr Thomas set about convincing Kent University that a cartoon centre had great potential. At the end of 1973 it was formed and last week inaugurated amidst great publicity.

Today the Kent University Centre for the Study of Cartoons and Caricatures is the collective name for Dr Thomas, two research associates, a band of temps and 50,000 sheets of paper gathered with thoroughness. So far 48 researchers have lodged inquiries, supporting his belief that cartoons can give invaluable evidence to the sociologist, historian and student of art alike.

"Our first aim is to make cartoons available to academics who need them as evidence for research, whatever their discipline," he said. "Cartoons can tell us details about a period which cannot be found in written accounts. For instance, an Oxford social historian researching into the suffragette movement found that, only from car-



toons could he discover precisely how great was the public's prejudice against it."

Each is cross-referenced up to a dozen times, once each under every possible element included in it. So a seemingly innocuous Lee cartoon, in which a wife sends her husband out gardening despite three feet of snow, would be cross-referenced under marriage, weather, dogs, goldfish, homes, gardens, children, fashion, household utensils and furniture. Multiply that by 50,000 and you begin to appreciate why Dr Thomas sometimes looks like a madman in his shirt and looks slightly stunned. Particularly since he lectures in politics and government as well as running the centre.

Not surprisingly he hankers after more staff and funds. Ideally he talks in terms of a full-time director, and three or four research fellows, as well as research associates, operating in their own purpose-built premises, but he is realistic enough to see that this might be 15 years away at least.

Undaunted, he hopes the centre will eventually become the automatic repository of British newspaper cartoons, with dual archive and research functions. "As a research centre we want to build up a data bank on the life and work of all cartoonists, regardless of nationality or period."

"We hope that academics from all over the world will contribute papers and that practising cartoonists will talk to us about their work and send us examples of it published." But what exactly does Dr Thomas want to learn from Scarle on Heath, Low on Hitler and Giles on grannies?

"First, we are interested in them for the detailed picture they give of social

mores, as reflected in the newspapers' sensitivity to public reaction. For instance, a changed opinion on a cartoon can show a great deal about social climate or editorial policy. Individual examples may seem trivial but a mass of them builds up a unique picture."

Examples range from dishing up an African leader's nose to make him look more negroid to the playful censorship of Frank Brown (Eccles of the *Morning Star*). He tells how on one paper he was working for he tried to find out just how far he could go. "It was the day after a politician's death and so I drew a tombstone with the words 'Beneath this sod lies another' written on it. The cartoon was not published."

Apart from insights into social history, the centre also wants to study the cartoon for its own sake. "Cartoonists seem able to make comments on their times which columnists cannot. We want to study how much they can get away with by virtue of their medium and why," Dr Thomas said.

The centre's exhibition brochure gives a good illustration. Few newspaper editors would be likely to print an article which stated that the Irish nation was a collection of pig-headed, fanatical, belligerent, hysterical drunks, yobboes, bog trotters and savages who should be left to stew in their own 90 per cent proof liquor. In cartoon form, however, say an ab-ulster Caliban comprising each of these elements, it would probably pass without comment.

In this respect cartoonists would be surprised if regularly taken to court. This seems to be partly because their drawings are too ambiguous for easy litigation and partly because their victims do not like to be thought humourless. (There are, of course, notable



Two examples of the cartoonists' art, loaned by the Kent University Centre for the Study of Cartoons and Caricatures.

exceptions. Hitler had Low short-lined for liquidation.)

The centre is keen also to examine why the cartoonist has been such a powerful figure. Other questions interest Dr Thomas and his centre, such as whether cartoons influence events. "This is always an unknowable, but there is a good case to be made for Vicky's contributing to Alec Douglas-Home's election defeat in 1964. He consistently picked up the Prime Minister's honest admissions of inadequacy, as in the field of economics, and gave them to the public as another facet of a ham-fisted messianism."

Do cartoons reflect developments in male stream art? "This type of question will interest us as much as political ones. We have collected originals rather than copies to enable examination of the cartoonist's techniques."

"The centre will also have to consider how far bad drawing is part of a cartoonist's appeal. The story is told, for instance, of how Thurber went to art school until his editor wired him 'to leave it once'. His drawings were becoming too well observed and ceasing to be idiosyncratic."

The centre will also ask what are the psychological wellspring of cartoon and caricature anyway? Why this constant human need for gargoyles? With such questions it will step onto ground so far charted only by Professor Sir Ernst Gombrich and a handful of others who have analysed cartoons.

It's all ready talk for the lined descendant of Prince Albert's accident. All the same Dr Thomas works away in two small rooms to garner a tradition which Emerson called "the wisest history of our time."

Alan Cane visits Salford University, now in its eighth year, and gives a progress report

Where being useful is the aim of knowledge

About three-quarters of Salford's undergraduate students are reading science or technology, but it refuses to be labelled a "university of technology". It is, everybody agrees, an "applied university".

This theme of knowledge for its practical value runs through every aspect of the university's activities and colours its attitudes. Professor Tom Constantine, pro-vice-chancellor and professor of civil engineering, says: "We are committed to educating students to be useful members of society."

Salford is at an exciting stage in its development. It is going for substantial growth, albeit against the advice of the University Grants Committee, and most of its growth will be on the arts and humanities side. Morale there is high as academics savour the prospect of the formation of new departments and new chairs. If student numbers grow as expected, Dr J. H. Horlock, the vice-chancellor, believes that up to a dozen new chairs could be created by 1981.

"The chief challenge is development of the university. Restrictions on finance have meant that our target of 7,000 full-time equivalent students by 1981 has been abandoned. The UGC suggested a target of 4,500 to 5,500, but we have proposed a total of 6,000, with most of the growth taking place on the arts side. That total will depend, however, on financial assistance to build new arts and library accommodation."

Salford became a university in 1967, one of the last of the ex-colleges of advanced technology to receive the royal charter.

The early and painful transition from CAT to university was ably managed by Dr Clifford Whitworth, its first vice-chancellor, who laid the foundations on which the university's great leap forward is based. Dr Horlock has clearly provided the impetus for change.

Some of the changes he has initiated are controversial. Salford at present has a peculiar administrative structure consisting of a small number of very large departments in two faculties—the undergraduate and the postgraduate.

At present student numbers fall 75.25 in favour of science and technology. By 1981, the aim is to have a 65.35 balance in favour of science.

Student intake has been frozen for the last two years because of a serious accommodation situation which seems now to have been largely resolved.

Overall student numbers rose by about 3 per cent this year, despite large and unexplained falls in modern languages and mechanical engineering. Professor A. W. Chisholm, one of the four professors in the department, said: "The university is feeling the effects of the general unpopularity of straight engineering, which reflects the great unpopularity of industry with the young."

Discussions with Professors Constantine, Chisholm and Tabbie, of the physics department, Professor Carter, of electrical engineering, and Dr E. Davies, of chemistry,

showed that while Salford was prepared to develop new and unusual courses—an MSc course in underwater technology has just been started—there is a strong belief in traditional virtues. Professor Constantine said: "We are anxious to keep going what we know to be really good even if it is unfashionable."

The accent on applied work is just as evident in the arts and humanities as it is in the sciences. Professor Corrine Barric, chairman of the department of sociology, government and administration, points out that in Salford sociology means the study of the growth and nature of industrial society. Morale is high on the arts side. Professor H. McKinlay, management studies, says: "There is an extraordinary amount of enthusiasm. The sciences here where I have never seen people work harder."

Professors Barric, McKinlay, and Millward of economics and Professor H. White of geography agreed that it took great effort to get new ideas through the committee structure and into practice, a problem they thought was part of the price of growth. "We are terribly democratic and participatory," Professor Barric said.

The emphasis on applied work also affects areas such as music, where Salford is particularly strong—physical education and the fine arts. Fine arts is not to be confused with what goes on in an orthodox university. It is part of the complementary studies programme run by Mr J. C. Garner and includes courses on psychology, philosophy, art, music, drama and literature. All undergraduates have to spend at least one hour a week on some aspect of complementary studies.

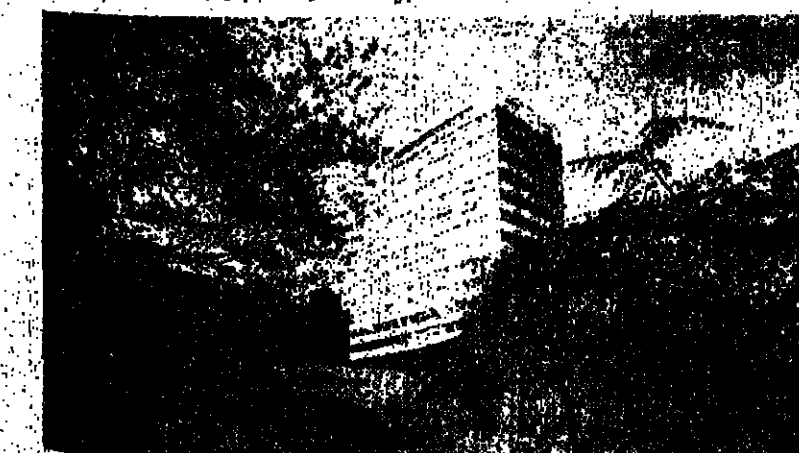
Mr H. Winterbottom, director of music, says that over 10 per cent of full-time students in the university take some active part in amateur music making. Music is now formally part of the joint honours course in science—in the first year it is one of three subjects studied and in the second and third year one of two.

Physical education under Mr D. W. Masterson is studied as an applied science and there is a well-equipped laboratory for physiological studies. The section was involved some years ago with a major investigation into the physiology of the Manchester City football team. Physiology and human movement is now offered as part of joint honours in science.

The library, hatched out of all academic institutions, reflects the general theme at Salford. Mr A. C. Bubb, the librarian, says: "We are not a museum. The aim is to create a small but active library which can react quickly to changes in user needs."

He is hopeful that money can be found for the next stage of building. At present the library ends in an unfinished wall. Mr Bubb says that the library is just about holding its own financially, adding: "It is the biggest teaching aid we have got and the most important."

They are interested in teaching at Salford with an active audiovisual media unit under Dr A. I. R. Williams, and they are anxious that academics should become proficient teachers. Staff development courses are taken seriously. Professor Carter commented: "We encourage staff to attend them. They are not mandatory but only by leave of the vice-chancellor may now staff not attend."



Salford University

Postgraduates need £500 more, v-c says



Dr J. H. Horlock

Postgraduate grants should be increased by at least £500 a year even if it meant fewer postgraduate students, Dr Horlock, vice-chancellor of Salford University, said last week.

Asked if the only answer to the problem of declining numbers of British science and technology postgraduate students was to offer more money, Dr Horlock said: "My argument has always been that the overall postgraduate grant should be adequate. I do not think it has been adequate."

"It is basically wrong to say that the postgraduate rate should be tied to the undergraduate rate. In general, postgraduate students are worse off because they work a 48 week year without the opportunities undergraduates have for earning money in the vacations."

Dr Horlock went on to say he was in favour of adequate grants for all, and not specifically in favour of differential grants which favoured scientists and technologists.

He emphasized that the present postgraduate grant was only £1,088 a year, tax free, while the market rate for a good applied science graduate was £2,628. "My last PhD student came from industry and went back to ICI at a salary of £4,500," he said.

Dr Horlock is the only vice-chancellor to have been a member of the three committees which reported most recently on postgraduate education—two from the Science Research Council and one from the Committee of Vice-Chancellors and Principals and he is chairman of the newly formed SRC postgraduate training advisory panel, set up specifically to tackle problems of postgraduate education.

The chief problem common to all the technological universities is a decline in recruitment to postgraduate courses from British students while foreign student numbers are increasing.

Dr Horlock is convinced that Britain's economic position could be improved if there were a higher percentage of people with postgraduate training in the workforce.

He said: "It worries me that we do not get people going on to do graduate work as North American students do. There, going on to do your master's degree has been the accepted thing. I am sure that in science and technology, this is the natural progression."

"New developments in American industry are very much based on the one-year master's course. There is a tradition there that if you intend to be a design and development engineer you will need a master's degree."

Dr Horlock went on to say he believed the proper progression for a postgraduate in science or technology was first a master's course, involving a high proportion of taught work, and then a final two year period of research culminating in the PhD.

He placed special emphasis on the value of broader-based courses such as the SRC Cooperative Awards (CAsE) scheme, and technical education.

A Cheshire marriage brings new life to the community

The merger of Crewe and Alsager colleges produced the largest teacher training centre in the country. Frances Gibb reports on its progress

The merger of Crewe and Alsager Colleges was one of the first mooted in the college reorganization plans in 1972. As such it suffered much resistance and many of the problems inherent in the early amalgamations.

Difficulties were legion: the colleges, although small, were from very different traditions—Crewe, with about 300 students, mainly women, was an old-established college of education founded in 1900, while Alsager, male-dominated, was established after the Second World War as a teacher training college and was fairly progressive. Alsager, with some 1,500 students, had felt it could stand alone and diversify its courses without merging.

However, once united, the prime question facing the new institution was whether to remain with Keele University for county validation or change to the Council for National Academic Awards. Miss B. E. Ward, the principal, said that after extensive consultations it became clear that in order to further a reappraisal of the colleges' traditional role the best course was to seek CNA validation. Two reasons prompted the decision. One was uncertainty about Keele's attitude towards the university's role in the area. The other was a desire to be more vocationally oriented.

The decision to approach the CNA was taken in December, 1973, and was the turning

point in the college's history. From then on staff had to work together on courses at all levels, both academic and non-academic. "It was very traumatic but very healthy," Miss Ward said. "It was cleansing, like a dose of salts."

Much of the success of the changeover to the CNA—and hence of the merger—can be attributed to the personality of the principal, whose drive saw through the entire teaching restructuring of the colleges. Bachelor of Education, BEd honours, Certificate of Education, postgraduate certificate and diploma of higher education.

The new structure of the college, which replaced departments with faculties, brought in new blood, reflecting the college's changed emphasis: at least two of the new departments were taken by polytechnic men with CNA experience.

With a student population of 2,200, mostly training to be teachers, the new college is at present the largest teacher training centre in the country, including polytechnics, and even by 1981 it will be one of the four largest training centres.

While suffering slightly from being over-burdened, the professional studies faculty, teaching our students with the practical side of the teaching courses, is forging ahead with plans in line with the James recommendations.

Already the college has a reading development centre and is planning to develop similar centres for mathematics and other specialist teaching areas. "We are centralizing our in-service facilities and resources so that they can be used by teachers in training," Mr A. C. Kendrick, dean of the faculty, said. Two other areas receiving particular attention were curriculum development and overseas students.

The only criticism of the new venture in this area. The students complain that the theory of education has been separated from the practice in the faculty of social and educational studies, and they argue the two should be taught together.

The argument against this is that the two faculties combined would be unmanageable, but whether administrative convenience will have to be sacrificed for the quality of the course has yet to be seen.

The other faculties are busy diversifying and producing courses that will convert a DipHE into a degree course. Three degrees are being planned in creative arts; one in environmental and recreational studies and one in humanities. These will establish the college firmly in its role as the only institution in the locally involved with CNA degree work.

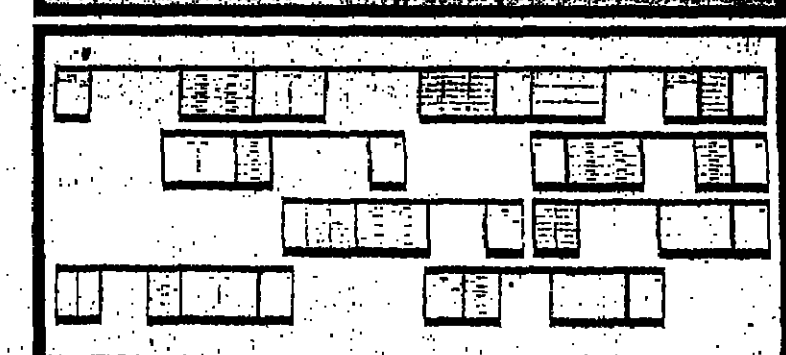
Its second path lies in the direction of further and adult education and non-degree work. A part-time course for mature students on "Women's Studies" is being planned by Mrs. Susan Gregory, dean of humanities. She advanced the course in the local newspaper and has had a good response. All those interested will be invited to help plan the course, which may eventually form part of the DipHE, and hence a degree.

Links are being created with local further education colleges so that they will be linked at the top and of the scale as well as at the roots. There is some sense of urgency about creating new degrees because at the moment the BEd is the only outlet for the DipHE teacher training intake targets for 1981 have been brought forward. The intake of 1981 this year will have to be cut down to 350 in October.

The college's strength has so far been in the liberal arts, but the vocational side has strong advocates. Mr Clesby said, "There is a debate as to whether we should have a sharp subject division of some kind, or whether in this economic climate we are developing vocational work as well as academic understanding."

"My view is that if surviving means the development of vocational work, this is doubly true in troubled times."

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LETTERS TO THE EDITOR

'Who rapes reason now?'

from Dr David Parker

Sir,—I cannot believe that Paul Johnson has read Martin Jacques' article ("Universities and Capitalism—the Present Crisis", *Marxism Today*, July, 1975) properly; if he has he is guilty of misrepresentation.

The suggestion that Jacques is a "friend" of the ministers and civil servants currently engaged in attacking the universities is, of course, a joke. But the implication that he treated Robbins as a capitalist plot and approves of the present policies cannot be so lightly dismissed. For Johnson introduces this misrepresentation of the article in the absolutely crucial point in his own argument where he passes from a general consideration of the attack on universities to finding the left responsible.

Jacques, in fact, far from approving of the changes now taking place argues that all sectors of education must join together in its defence. His central theme is that the attack on universities and the development of the polytechnics derives in general from the needs of monopoly capitalism and is accelerated by the deepening economic crisis.

Johnson might profitably have considered this analysis a little more sympathetically, for his own position can only be sustained by regarding our Labour leaders as socialists whereas they are, alas, merely social democrats managing a capitalist system.

It is worth pointing out that in France the universities are being subjected to a measure of financial stringency of appalling destructiveness and direct intervention in their affairs of almost totalitarian proportions. Even Johnson's fertile imagination would be hard pressed to show that this is a result of the egalitarian socialist policies of De Gaulle's successors. The fact that we have a Labour Government in power should be allowed to obscure the fact that the underlying cause of our own plight are very similar.

Moreover on both sides of the channel the Communist Parties have made defence of educational standards a priority. If Johnson can overcome his ideological differences with Jacques he would find that in this area at least they were not enemies but allies.

Yours sincerely,
DAVID PARKER,
School of History,
Leeds University.

from Mr Ralph Harris

Sir,—As an increasing fan of Paul Johnson's recent writings, I thought his third article (*THEES* October 31) on "the university and its enemies" a touch below his best form. His analysis of the "horrific goings-on" at the Polytechnic of North London clearly carried exceptional authority but I could not overcome a strong sense of *déjà vu*.

And then I referred to our recently published study of the PNL by Jacky Cox and Marta Oyedun. *Rape of Reason*, 10 and 100 p.p., the striking similarity of quotations and sources cited leaves me with no doubt that your readers were being treated to another kind of "rape" merely of our copyright.

Since Mr Johnson omitted to let your readers into the secret about his principal source, may I, on behalf of the publishers, announce that if they want the whole shocking story, *Rape of Reason* is still available, thanks to a second printing in paperback at £1.20 or in hard covers at £2.25. Most of the book's 100 pages, which can also be obtained promptly by sending cash with order to the address below.

Yours faithfully,
RALPH HARRIS,
Churchill Press,
c/o 2, Lord North Street,
London, SW1.



Paul Johnson and Standman's cartoons.

from D. E. Andrews and R. D. Whitley

Sir,—We nominate Paul Johnson's third article on "The University and its Enemies" for the 1975 award for yellow journalism. He uses labels, exaggeration, and emotionalism freely while avoiding logical argument.

The article's concluding paragraph is revealing: "Academics, provided they stand together and stick to the moral and professional principles of their trade, have nothing to fear from any of the university's enemies." Academics, like everyone else, have many social roles and various interests. To suggest they stand together regardless is simply-minded to put it politely.

Furthermore, to assert that they agree on "the (our) emphasis" moral and professional principles of their trade "is an even clearer clue to the writer's restricted vision. Individualism, pluralism, open debate, reform, and integrity, which we associate with the aims of higher education, receive a poor despatch from Paul Johnson."

We dread his coming contribution, "Defending Culture in Depth". Universities, let alone culture, deserve a more "civilized" clom-pion.

Yours sincerely,
D. E. ANDREWS,
R. D. WHITLEY,
Napier Road,
Manchester.

from Mr Jon Bloomfield

Sir,—What is it that is bugging Mr Johnson? His description of the university as a "horrific goings-on" in this area at least they were not enemies but allies.

Yours sincerely,
DAVID PARKER,
School of History,
Leeds University.

Clearly, any questioning by students of the content of their courses is abhorrent to the author. The intrusion of political or theoretical views into the core world of academics would be a repudiation of the university ideal. Who is Mr Johnson kidding? Does he not read Alan Day every Sunday? What about Mosses Pinar and Shapiro? They and countless others give their political and theoretical views in lectures and seminars as well as their articles and books.

Presumably, Mr Johnson, sees these "ideological" political dons as a threat to his ideal. But surely it is legitimate within universities to be elsewhere. For teachers and students to argue for Marxist ideas and views along with other ideological trends is of the broad interest in these ideas at a time of capitalist crisis worthy Mr Johnson?

There are a host of important issues raised in the article. My party would be only too pleased to let them in public debate with Mr Johnson. Maybe *THEES* would care to sponsor such an event?

Yours faithfully,
JON BLOOMFIELD,
National Student Grammar,
Connaught Place, Great Britain.

from Mr Geoffrey Middleton
Sir,—As one who worked as a full-time staff member of the National Union of Students for five years, I am acutely aware of the far-reaching movement during the time of the PNL. National and local unions

Equally, the operation of a form of intellectual Gresham's law associated with this leftward movement, has caused me deep concern. Thus the affectation of mumbling incoherence in public argument and the genuine incapacity to distinguish between fact and assertion exhibited by "Left" students, must cause alarm to anyone committed to rigour and honesty in thought.

However, Paul Johnson, in as I suppose, attempting to combat intolerance and dishonesty, may himself be guilty of a most unpleasant smear. In juxtaposing paragraphs about participation in the Communist Party, Marxist studies course with statements about "militant political dons, who bring their views into their teaching," one assumes him to mean that the named participants were doing this and are therefore "a serious threat to the university ideal."

I am far from convinced that to hold personal views of a political or any other description, necessitates an absence of objectivity in teaching. Surely, it is less the nature of the personal views, than the content of the teaching over a period of time that is the acid test of a genuine commitment to the demands of teaching. In other words, it is a matter of fact rather than inference, analysis rather than association proving guilt. I am therefore distressed to find the standing of academics of proven worth and demonstrable intellectual honesty impugned, albeit by inference.

It would be interesting to know how Mr Johnson justifies the use of such tactics in support of a case allegedly based on reason and tolerance.

Yours faithfully,
GEOFFREY MIDDLETON,
Leicester Polytechnic.

from Miss G. Birkby

Sir,—Paul Johnson seems to take no account of the fact that students may have justification for their unrest in universities and polytechnics.

He mentions that the unrest is greater in newly established institutions "of low status", but fails to make the obvious point that low status is often associated with low standards of teaching. Therefore students may very well have a genuine grievance against that institution for providing them with such a poor university or polytechnic education.

Yours faithfully,
G. BIRKBY,
Pragmar,
London.

from Mr C. M. Posner

Sir,—I feel that we owe Paul Johnson a debt for his rare and pungent use of invective in his recent discussion of university problems.

We should not be unduly concerned that applying Mr Johnson to Mr Johnson's article at the following statements:

Paul Johnson is clearly a menace to a free society because he has spoken out in favour of restoring the death penalty to combat terrorism in a recent article in the *New Statesman*.

It is known that Francisco Franco and a host of equally odious tyrants, Uruguayans and Chilean generals, have been practitioners of "re-educating" their opponents to death.

under an assortment of anti-terrorist acts. Mr Johnson supports their arguments and is doing his best to make them respectable.

Yours sincerely,
C. M. POSNER,
Institute of Education,
London University.

from Mr Douglas Coker

Sir,—I must protest at Paul Johnson's article on the education system and the student left. It is couched in thoroughly immoderate language—"fascist", "aggressive", "college-smashers" and so on—and to the conclusion of any considered analysis is no more than a series of wild unsubstantiated assertions.

There are a number of particular points I would like to pursue. He notes that disruption of committee meetings took place at the Polytechnic of North London. There is no disputing that on May 14, 1973, Mr Terry Povey and about 40 other students disrupted an emergency meeting of the Court of Governors. However, if Mr Johnson would come to read *High Command—The making of an Oligarchy at the Polytechnic of North London 1970-1974* he would discover, if he doesn't already know, that Mr Povey had very good reason. A concerted effort had been made at PNL to bypass the democratic decision-making process.

Further Mr Johnson is guilty of gross hypocrisy. He doesn't miss the opportunity of criticising the NUS policy on racism and fascism but at the same time implies that there is something wrong with students being lectured on Marxism. Supposedly it is quite in order for Marxist arguments to be either ignored or suppressed and for racist and fascist-type arguments to be propagated.

He also criticises the left for firing "personal abuse" at their opponents. It would be interesting to know what Messrs Blackburn and Povey think of being labelled "aggressive-fascists".

He quotes from *Student Power* and writes: "Some sociology students at the PNL admit frankly that their aim is to create a Marxist cell; that, they say, is what they have come to college for." Mr Johnson implies that it is quite illegitimate for anyone to conclude that the social order should be subjected to revolutionary change.

At least these proponents of revolution in Johnson's own words, "admit frankly" what their aims are. It is too much to expect him to come clean, and state his own political philosophy explicitly?

Or is he going to continue to attempt to hide behind the cover of "neutrality" and "value-freedom", while firing insults and smears at his political opponents? Mr Johnson, self-proclaimed socialist, comes across as a stubborn narrow-minded elitist who sees his own privileged position challenged.

THEES would be well advised to commission a series of articles setting out a socialist philosophy of education. This would be a valuable contribution to the growing debate on fundamental issues which confront the Western world.

Yours sincerely,
DOUGLAS COKER,
Storia Street,
Paisley.

from Lynden Barber

Sir,—Paul Johnson's recent article on the student left must rate as one of the most hysterical pieces of reactionary journalism to have appeared in your paper in recent months.

One of its most frightening aspects is the current trend for the academic right-wing to appoint themselves as the sole arbiters of reason. The basic premise of the article is that non-Marxist views constitute "reason" whilst Marxist viewpoints constitute the "politics of unreason".

You think I am exaggerating, of course. Listen, then, to a quotation from Mr Johnson's article: "The Communist party has a student officer, Jon Bloomfield, who organized an annual week of courses on Marxist studies. . . . One of its objects was to extend Marxist perspectives and disciplines to such subjects as art, design, literature and architecture, in addition to the traditional economics and politics."

Horror of horrors, someone proposing alternative perspectives! But more is yet to come from that lost of objectivity and free academic enquiry, Mr Johnson. "Naturally, militantly political dons who bring their views blatantly into their teaching, represent a serious threat to the university ideal."

The assumption here, of course, is that conservative dons do not bring their views blatantly into their teachings, and if they do then this does not represent a threat to the university ideal! The only conclusion one can make is that Mr Johnson sees the university ideal as being concerned with the propagation of conservative ideas, and the denial of Marxist or radical ones.

What the tone of this argument amounts to is that in the name of "free speech" and "reason", freedom of expression for the left must be curbed, as those views represent a threat to the university ideal. This paradox must represent the ultimate hypocrisy of the academic right's current attack on the left.

Can anyone who gives a blanket dismissal of left perspectives and refers to the "aggressive-fascists of the NUS" really be said to be acting in the interest of reason? The Rape of Reason? Is it Mr Johnson who is doing the raping?

Not once in the article does the author look behind the real causes of student militancy. His approach is that militancy is a problem, therefore we should solve it by getting rid of the militants. This is a grossly naive and unrealistic assumption that students have no real grievances, but only ones "created" by fanatical student leaders and Marxists who are out to disrupt and destroy for their own sake (a view shared by the report in the *Times* about the PNL).

But this ignores the fact that student militancy is not possible without the support of the base of students. This support is not possible without their feelings of grievance, but only ones "created" by fanatical student leaders and Marxists who are out to disrupt and destroy for their own sake (a view shared by the report in the *Times* about the PNL).

Yours sincerely,
LYNDEN BARBER,
Old Tiverton Road,
Exeter.

B. M. Bland

Mr B. M. Bland who wrote the *Southern University* book, was writing on behalf of the Standing Conference of National and University Libraries.

Three replies to Paul Johnson's four articles on the state of universities

Discipline: the diet of fascism

If Paul Johnson is going to write about universities he should, as a professional journalist, seek to discover and set down what there is to be said on the other side of his assertion. The worst cases he says "were Essex, Warwick and Lancaster", and says not a word about the causes of conflict.

Even on his own thesis that disputes, sit-ins, and so on, are all created by the "student fascist" he falls, as have scores of similar searchers for simple solutions during the last ten years, to explain how it is that the protests so often command such widespread support.

Are we to assume that students in the mass are herded sheep? Or could it be that at Essex, Warwick and Lancaster (even at the Polytechnic of North London) there were activities by those in charge which aroused considerable resentment among the student body?

In the days when some of us were concerned to defend colleagues like Robin Blackburn, Dick Atkinson and Anthony Arblaster, we were warned that those attempts to stand up against "the authorities" would result in a backlash of considerable dimensions. We had little doubt that it would. So it has, and produced in its turn more conflict and more reaction.

Seen through Paul Johnson's telescope, the causes of conflict in universities and polytechnics are simple. But it is likely that the troubles in such complex institutions should be explicable in such easy terms?

Thrown together, often in somewhat remote places, are thousands of people mostly between the ages of 18 and 22, and a few hundred others mostly middle-aged. The relationship is basically that of teachers and taught.

The teachers are in established hierarchies, the more senior exercising very considerable control over the more junior. The taught only receive instruction from the teachers but also are assessed by them and sent into the world with grades and references.

All this makes for a complicated set of human and institutional relationships. And as Paul Johnson knows, it always has. How these relationships are to be conducted takes constant thought, and there are no once-for-all solutions.

But one way, it seems to me, is certain to fail. And that is the imposition of elaborate rules, regulations, disciplines and punishments to strengthen the authoritarian aspects of these institutions. That way is bound to please the fascists wherever they are situated, and has, indeed, pleased them in the past.

Fascists do not like free inquiry, and they love discipline. If the discipline is on their side they welcome it. If it is being used against them, they are able more easily to impose their own discipline on their followers.

Paul Johnson attacks me for doubting whether any useful purpose is served by having a college-based disciplinary system. I am wholly serious about this. Instead of constructing complicated codes with offences, unknown to the common law or to the law of the land and the university authorities want to pursue him, the proper place to do so is in the ordinary courts. If a court sends him to prison, he cannot continue to be a member of the university, at least during the period of his imprisonment.

If the court considers that it is not necessary for him to be removed from general society for a while, then neither should the university debate him from its society.

I agree with most of what Paul Johnson says about the encroaching power of the state. Indeed his concern, however hourly because I believe a machine has been set rolling and when that happens, in our modern society, stopping it requires a huge effort.

It is easy to believe that because the vice-chancellor of the University of Oxford has spoken out against the malfeasance of Povey and his like. We should also, unlike Johnson, attend attentively to the facts.

It is simply not true, for example, that the workers have concentrated on the weaker and less prestigious institutions. The London School of Economics has been a prime target, and the colleges of education have been virtually untouched. And let us further be clear with respect to the good intentions of our declared friends that the government if the need to be moved to happier highways if we examined our situation with care.

Johnson's analysis turns mainly on two

John Griffith

The author is professor of public law at the London School of Economics.

An ally against state control

I had a strong feeling of *déjà vu* when reading Paul Johnson's articles, though I suppose it was bound to be only a matter of time before another socialist intellectual followed Iris Murdoch and joined the ranks of Black Paper authors.

It would be churlish of me, however, not to welcome the conversion of a former editor of the *New Statesman* to the ranks of those opposing "central planning", and it is important that the current widespread reappraisal of universities has spread to the left.

There is, however, a touch of absurdity about Johnson's views, not only with regard to the practicality of establishing a so-called "unitary" system of higher education that is autonomous, and within which the universities are to be *in imperio*, but also in the way Paul Johnson has stayed locked into old concepts.

As the chairman of the Conservative back-bench working party on post-school education, I am not yet in a position to spell out the results of our deliberations. But in seeking to implement the Conservatives' desire to extend personal autonomy in an "ever-governed society", I am sure that we would join with Mr Johnson in much of his analysis, and with his desire for diversity, though we might differ with him regarding the way to get it.

It is certainly right to highlight the inadequacies of Lord Crowthurst-Hunt, and the failures of post-war manpower planning, with regard to teacher and doctor supply. It has never emerged, of course, what changes the noble lord has in mind. A recent attack on university expenditure by Mr Ernest Ayrton, a former minister in the Department of Education and Science, does, however, say something about the anti-intellectualism which now dominates the DES.

It would be hard to fault Johnson's indictment of DES "planning" techniques and his catalogue of growing departmental interventionism. It is also pleasing and important that an influential left-wing voice recognizes that there has been, and to an extent there still is, an organized assault upon our institutions of higher education by people to whom

this is merely a stage of the bigger offensive against western capitalist society.

Others must speak out, too, for though the universities of Essex, Warwick and Lancaster are the obvious trouble spots, a great deal of damage is occurring, largely unnoticed, elsewhere—at Birmingham University, for example.

In one sense the sacrosanct area of curricula has already been breached by the DES, which has brazenly pushed reorganized colleges of education into establishing what are often pretty worthless liberal arts degrees. Spoken for the department have expressed the plain hope that courses would be "relevant", which is patently impossible with existing staff and resources.

But there also lies a flaw in the Johnson scheme of things, since some universities which are supposed to check the academic viability of the courses put up by the colleges have validated degree courses which are simply not up to par.

Nor is it inevitably right that vocational courses would be better, were they devised. So much in higher education which is extolled as "relevant" is in fact being condemned since quality is not the indispensable component that it should be.

So much for the main areas of agreement. It is vital that society should not impoverish its universities, and equally important that teaching and research staff should not feel that they are being unduly scrutinized.

But would Paul Johnson really deny the right of Government in a democracy to hold institutions accountable for public funds? The lavish post-Robbins days are over, but they did produce waste and overlap; hence the call now for belt-tightening, which the universities have responded to in haste.

It is hard not to feel, however, that some sort of regional body (or possibly a national council with regional sub-committees) which would sponsor resource and syllabus coordination and provide a continuing review of the higher, further and adult sectors together, might be sensible.

Rather than dream of a golden age free of government interference (but distorted by

"academic drift"), it would be better to devise a new strategy for Government.

If selectivity were to become the language of public expenditure rather than common sacrifice, there could be resources both for advancing the best, and for developing a pluralistic system of post-school education in which there would be institutions of different shapes, sizes and functions to meet the diversity of human need.

The existence of elitist teaching and research establishments is not inconsistent with widening opportunities for post-school learning, provided that they do not exert direction over the system. Each must be free to develop its own character and build a reputation based on its quality in its chosen field.

Women today are still educated well below their capacities, and adults generally are more capable and keener to learn than we usually recognize. Skills quickly need updating, many specialized occupations require an intensive post-experience follow-up.

So the whole structure, full-time and part-time, correspondence and Open University education, needs to be examined as a whole; and the result might be for us to become more adult and less over-extended. Hence my repeated call for a royal commission into post-school education. But in the context of Paul Johnson's argument, the point is that only by a positive exercise of political will can such a pluralistic system get established.

If only we could break the habit of viewing education as an ever-expanding end-in-itself process and concentrate on providing continuing opportunities for learning, we would relieve the universities of the political pressure to increase numbers and at the same time benefit the institutions, the students, and society. This is the key dimension that Paul Johnson's articles entirely miss.

Keith Hampson

The author is Conservative member of Parliament for Ripon, and chairman of the Conservative Party's back-bench working party on post-school education.

The real enemies: class, status and power

Demonology is not wholly to be deplored: it makes for racy journalism and stirring sermons; it may awaken the complacent and guide the energy of the well-intentioned. But, in the end, demonology is itself an enemy of that sweet reason and light which is the essence of university life. How wretched are the universities, with their teachers, their students, their patrons and their (civil) servants as enemies and Paul Johnson as their friend.

Let us, however, first be clear as to the nature of demons. Johnson makes them all persons: reason would identify some at least of them as situations and relations. His style leads to indiscriminate personal abuse of such individuals as Clark Kerr, Lord Crowthurst-Hunt, Terry Povey, and Sir William Pile.

Three of these however, are honourable men, and Johnson has to resort to the smattering of quotations from their context in order to sustain his calumny. Since the knight in question is bound to be silent, I would point out on his behalf that his remark about governmental interest in the curriculum is wrenched from a speech of determined resistance to demands from foreign critics for more intrusive and ambitious planning of British education.

Johnson similarly makes much of the peer's evil intentions towards university integrity but we should also note the Ministerial declaration in the same issue of *THEES* (October 24, 1975) that "Universities must hold fast to their autonomy and academic freedom and reject any government interference."

Injudicious witness will not help us. By all means let us name and revile our declared enemies and honour those like Mrs Cox who stand up against the malfeasance of Povey and his like. We should also, unlike Johnson, attend attentively to the facts.

It is simply not true, for example, that the workers have concentrated on the weaker and less prestigious institutions. The London School of Economics has been a prime target, and the colleges of education have been virtually untouched. And let us further be clear with respect to the good intentions of our declared friends that the government if the need to be moved to happier highways if we examined our situation with care.

Johnson's analysis turns mainly on two

ideas—that universities can seek truth only if they are insulated from political powers and potentates, and that the truth seekers must be placed in a hierarchy of authority solely on academic merit (a combination, if I understand him, of energetic cleverness and social humility).

"Universities should stick to their autonomy." The key figure in a healthy university is the independent-minded college head who respects all branches of learning, loves his colleagues and students, sees his job as a privilege and a heritage to be handed on intact, and so fights like a lion for the standards of the institution he serves.

Hence, when we come to the question of government within the university, we find that the traditional elitist system is likely to be the best.

Well said and well come. Autonomy and elitism, however, are confusing words further confounded in Johnson's argument. In his first article he equates "academic triumphalism" with the modern form of elitism, and in the second article he equates "elitism" with the traditional elitist system. In the third article he is telling us that the universities are for all "necessary" in the long run to the "progressive process" and in the fourth article "the markedly elitist higher education system tends to produce a high growth rate."

He and we must surely make up our minds whether the universities have indeed replaced the business enterprise as the engine of economic progress in this manner which Daniel Bell describes in his *Coming of Post-Industrial Society*, or whether we are an economic irrelevance. The two cases have somewhat different implications for autonomy.

If the university is an economic asset, then we cannot realistically expect a government of any form or complexion (whether it now is defined by governors or governed alike as strategic management of the pursuit of affluence) to refrain from control either of the number of students or the content of their education. Such a situation denies serious meaning to university autonomy.

If, on the other hand, universities are irrelevant to the material wealth of nations then, though they may exist, they cannot claim any right to determine what resources are to be put at their disposal for their maintenance, in effect, welfare payments.

Only if a third alternative is adopted in which the university is sharply and purely

defined as a place of resort for scholars with no intention or expectation of immediate utility and only if political power and material privilege (other than that required for library and laboratory) are completely eschewed could there be a justified autonomy.

Similarly with elitism: European universities since the eighteenth century have been seen in the social context not of students but of social inequality. It would be loss of an exaggeration than many of Johnson's to say that excellence was merely a by-product.

Institutions of scholarly elitism can only be reconciled to an egalitarian age if teachers and students enter exclusively on the test of academic merit and receive no extraordinary privilege. Selection to the elite of the poor scholars would, moreover, be substantially as well as formally open to all the classes, all the races, and both the sexes. Only in this egalitarian context could we accept elitism.

Such a system would, of course, only transfer the problems of autonomy and governmental control to a separate and much larger sphere of higher education. Academic elitism, in other words, would require a still more whole-hearted binary approach than ever Mr Crowthurst-Hunt contemplated.

Universities, Johnson rightly asserts, are the bastions of civilization—an expression of the sophisticated virtues of "trust" sought through study and science. But only the third alternative—a university of poor scholars—can fully and unequivocally defend that eldorado. Class and status and power must always be enemies within the gates.

In affluent Oxford a don was once heard to declare that the last war was fought to defend Western civilization. "And what?" he was asked, "did you do in the war?"

"I was Western civilization," he replied.

Only the scholar who had forewarned material gain and social superiority could have made that answer remotely convincing. Such universities are conceivable. Their members would be a cultural elite of assured integrity. But they would constitute a small appendage—described by the majority of dons for the utilitarian "relevance" the suburban affluence and the political influence of the high technological institutions run by Whitehall and sanctioned by Westminster.

A. H. Halsey

The author is director of the department of social and administrative studies at Oxford University.

Next week: further replies from John Holloway, Martin Jacques, Michael P. D. Young and Bernard Williams.

ARTICLE IN BRIEF

Social action programmes make 'heavy drain' on funds

from Ian Anderson

STANFORD America is heading for a major debate on the financial implications of higher education in the coming years. At Stanford University last month, the president of the American Association of University Professors, Professor William Van Alstyne, outlined two basic aspects of the problem—on the one hand, the cost to higher education of increased Federal regulations and on the other, the decreasing level of Federal money to meet these new demands.

Important sources of Federal support have failed to expand, he said. The Basic Educational Opportunity Grant programme, which was designed to enable students from low and middle income families to attend college, simply had not been funded and to a considerable extent remained an empty shell. The GI Bill, which provided substantial educational benefits for veterans, was to be terminated and universities would lose income from this source.

Professor Van Alstyne said that the death of many private liberal arts colleges could probably be traced to the unwilling "but self-fulfilling" prophecy involved in current Federal programmes which emphasized low cost, career-oriented education in community colleges. Inability to obtain Federal financial assistance meant that many students from middle-income families turned to low cost two-year institutions at the expense of liberal arts colleges. While construction of community colleges continued, about two dozen private colleges went bankrupt annually.

He referred to Federally mandated social programmes as one of the least well known causes of the current economic pinch in private universities.

Quoting ACE figures, Professor Van Alstyne said that a single law suit filed over affirmative action or other Federal regulations could cost a minimum of \$40,000 in legal and administrative expenses. One major western Midwestern university estimated that full compliance with the new Occupational Safety and Health Act would cost \$24m. At labour-intensive institutions, universities were being hit by rising contributions required from employers for social security, he said.

Professor Van Alstyne said that most causes of higher education's fiscal problems were external to colleges themselves. Groups like ACE and AUP, he said, had been less defensive and far more specific about the causes of the current dilemma.

At the annual meeting in New Orleans of the National Association of College and University Business Office Associations, the ACE vice-president, Dr Stephen K. Bailey, a former professor of political science at Syracuse University, said that private colleges and universities had been forced to dip into reserves to meet the rapidly escalating costs of the programmes. Fellowship funds had been robbed, academic priorities had been shelved and dangerously high tuition fees had been levied to make up the deficit.

He gave three examples. In one large public institution, the annual cost of implementing Federally mandated social programmes rose in the period 1965-75 from \$438,000 to \$1,300,000. In one medium-sized private institution, the cost jumped in that same period from \$2,000 to \$300,000. In a large private institution, the comparable figures sky-

rocketed from \$110,000 in 1965 to \$3,600,000 in 1974-75.

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Panel set up to probe falling standards

from Thomas Cahill

NEW YORK The College Entrance Examination Board, unable to explain why the average scores on its scholastic aptitude tests have continued to fall since 1964 (THESE, September 19), has formed a "blue-ribbon panel" to conduct a thorough investigation.

Each year the board administers the SATs, standardized measures of verbal and mathematical skills which are taken throughout the country by pupils who hope to go

on to college. The tests are scored on a scale of 200 to 800. Since 1964 the average mathematical score has fallen by two points a year and the average verbal score by three points. This year the average mathematical score plunged by eight points to 472 and the average verbal score by 10 points to 434.

No one has yet offered a satisfactory explanation for the decline, though television, bad teaching and the permissive society have each been singled out as possible causes. The board, fearing that the SATs might have become gradually—and imperceptibly—more difficult over

the years has been conducting research since 1972 into possible hidden factors in its testing programme. But the old tests were given to this year's applicants and they did not perform as well as the original takers.

The Investigator panel will be headed by Mr Willard Wirtz, Secretary of Labour under President Johnson, and will include Dr Marina Horner, president of Radcliffe College, Dr Harold Howe II, vice-president of the Ford Foundation, and Dr Ralph Tyler, director emeritus of the Center for Advanced Study in the Behavioural Sciences.

Concern over cheating medics

from Angela Stent

HARVARD As the competition for medical school increases, professors are becoming alarmed at the lengths to which pre-medical undergraduates will go to obtain high enough grades to ensure their entry into medical school: sabotaging their fellow students' experiments, stealing textbooks and destroying laboratory equipment are all not uncommon.

Some professors blame the intensely competitive atmosphere involved in medical school entry. Last year, for instance, a record 43,000 undergraduates applied for the 14,000 places available in the 114 medical schools. This meant that students only had a one-in-three chance of entering medical school, whereas five years ago they had a one-in-two chance. This year, applications promise to be even higher.

According to Dr Albert Gelhorn, director of the Center for Bio-medical Education at City College of New York, competition for medical school is "a cut-throat thing. One of the most destructive things



Students have only a one-in-three chance of getting a medical school place.

is the emphasis on high performance in organic chemistry, which a practising doctor rarely uses. It is used as a tough screening device."

Although some students undoubtedly want to study medicine for humanitarian or scientific reasons, many are not unmindful of its financial rewards. The average physician's income is now \$50,000 a year. As one pre-med undergraduate at a major university said, "if you mess up on that chemistry

course, you blow the chance for \$100,000 a year."

In order to secure a place in an American medical school, undergraduates must score high on the nationwide medical aptitude tests and have good grades. Some students apply to as many as 50 schools—although the average is now seven per student, up from four in 1970, according to the Association of American Medical Colleges.

Bicultural learning opens up new research coffers

from Andrew Ortony

CHAMPAIGN-URBANA

While universities are cutting back and the students they produce are faced with ever-grimmer job prospects, one bright area of real expansion is that of bilingual-bicultural education.

In 1968 President Johnson signed into law the Bilingual Education Act, whose relatively vague specifications were designed to ensure that children of limited English-speaking ability received education which recognized their linguistic and cultural origins. The legislation, however, did little more than acknowledge the existence of a growing problem in the grade schools across the country and facilitate the flow of funds to those wishing to alleviate it.

Pressure groups, particularly from California, New Mexico, Texas, Illinois and New York, representing the interests primarily of Chicanos, American Indians and Puerto Ricans, continued to work towards more far-reaching reforms.

A major step forward came with a 1973 amendment to the 1968 Act in which some of the vagueness was removed, and in which there was more emphasis on the establishment of new programmes and more extensive research in the universities.

Nevertheless, the law lacks teeth: it is not a statement of concern that a piece of legislation; it contains no specific provisions. States have begun to enact their own legislation, in some cases more as a means of gaining access to Federal funds, than out of any sense of obligation or responsibility.

Federal funds are available for the establishment of programmes in "transitional bilingual education". These programmes typically make required courses in the schools available in both English and the native language of children of limited English-speaking ability, and they include courses covering

the history and culture of the territory or country of origin of the children's parents.

Some States have been much more responsive in setting up such programmes than others. The State of California, California and New York, in particular, have rapidly set up bilingual/bicultural teacher training programmes.

It is primarily in this way that the growing concern with the problems in the schools is affecting the universities. New faculty members are being taken on, and more often than not they are bilingual members of ethnic minority groups.

Associated with this tendency is a move in many universities to change the entrance requirements so as to reduce what is tantamount to discrimination against would-be students from other cultural and linguistic backgrounds.

The rapidly growing concern over bilingual-bicultural education has provided a new source of research funds in education for the universities and the Center for Applied Linguistics in Washington has recently become much more interested in educational research than in pure linguistic studies.

While the establishment of research projects investigating the more practical problems of both the implementation of new programmes and the national conscience with respect to the way in which minority groups have been effectively excluded from higher educational opportunities, there are many who vociferously oppose the offering of the olive branch.

They argue that the establishment of bilingual-bicultural programmes will lead to perpetuating cultural differences and consequently give rise to separate divisions. Coupled with this objection is the view that such programmes are in any case ill-suited to the educational needs of the children towards whom they are directed.

Links shown between brain size and malnutrition

Scientists at the University of California have confirmed what concerned teachers have long suspected—that many of America's poor children have stunted brains from the effect of malnutrition.

Their report, which will be published by Raven Press for the International Brain Research Organization, indicates their initial disbelief at their own findings: "Finding evidence that a substantial proportion of the population of an affluent country like the United States is in jeopardy for brain growth and development comes as a shock to us."

More than 1,100,000 small children have either suffered brain damage or are likely to suffer it because of malnutrition. In total, more than 945,000 pregnant women in the United States are suffering malnutrition severe enough to endanger their babies.

The scientists estimate the average deficit in brain weight among severely malnourished four-year-olds at 125 grammes—a substantial fraction of the normal weight of 1,400 grammes. The report refers to studies recently carried out in Memphis, Tennessee, which indicate that malnourished children experience general growth retardation and mental retardation; when they are fed special supplementary diets that are high in protein.

Headed by Dr Robert Livingston of the Department of Neurobiology at the University of California, San Diego, the team made use of the 1970 United States Census, as well as two national nutrition surveys. They arrived at their figures by matching nutrition and income data with physical data.

West Germany

'Fiddling' professors come under fire

by Günther Kloss

The nine universities of Baden-Württemberg and the civil servants of its Education Ministry have recently been severely criticized by two different official bodies.

A report by the Land's auditor-general covering the year 1973 attacks the existence of private institutes or research units at the University of Stuttgart which are stated to make use of the university's facilities without proper payment and separate accounting.

And the final, unanimous report of an all-party ad hoc committee of inquiry of the regional Parliament similarly accuses the universities of financial misadministration and the Ministry of Education of negligence in carrying out its supervisory role in non-academic matters.

The auditor-general discovered that the names of seven private institutes and those of the university departments which they are linked are practically identical and their directors are one and the same person. This, the report says, is misleading and permits a university professor to carry out his outside consulting work under false pretences.

According to the auditor-general the worst aspect of the matter is the intermingling of space and equipment used and personnel employed by the private "parallel institute" and the university institute proper.

The brief of the Parliamentary committee was more straightforward. Its problems have been acute: it has pressed the Ministry and particularly its head, Professor Böhm, the longest-serving Minister of Education in the Federal Republic.

The investigations started as the FDP Opposition in the regional Parliament but gradually developed into a thorough and scrupulously maintained inquiry into the financial administration of the university sector.

Some of the results of the committee's work are indeed sobering. The committee knew, of course, that in November 1973 the head of the high energy physics institute at the University of Heidelberg had been sentenced to three and a half years' imprisonment on charges of fraud and forgery.

It emerged, however, that the Heidelberg case was not an isolated one: money paid by suppliers was transferred to private accounts; travel expenses were claimed for journeys never undertaken; invoices for equipment delivered were made out higher than the difference being paid into private accounts; equipment was purchased and never used; and university employees undertook private work during office hours.

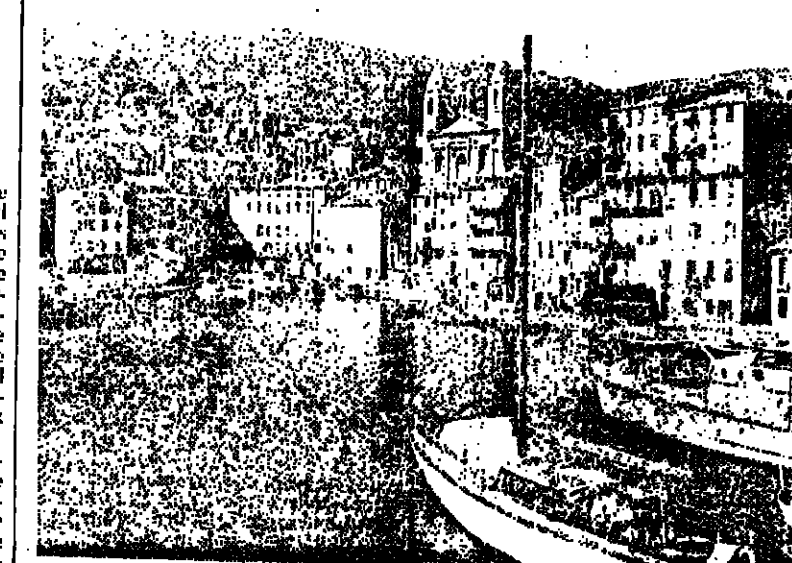
Medical faculties apparently present a particular problem. Here the private income of a head of a department sometimes exceeds the income of the whole institute. The report cites the case of the pathological institute of the University of Tübingen, whose director had a private income of DM 804,000 (£160,000) in 1974 over and above only DM 168,000 which the institute made.

The committee holds both the universities and the Ministry responsible for the situation. While the universities are accused of glossing over and covering up such practices, the administration by the ministerial bureaucracy is described as cumbersome and clumsy. The whole issue is, of course, a very sensitive one, since it involves the vexed question of academic freedom versus governmental administration.

Professor Böhm, whose educational policy is becoming more and more conservative, is aware that the committee's conclusions are explosive. He has not been too successful in handling several university problems in recent years, which has led to criticism from within his own party, and elections for a new Parliament are due next spring.

He has now declared the committee's document to be useful, and the day after its publication announced that he had formally instructed university professors to teach eight hours a week or forfeit part of their salary. Previously, the appropriate weekly lecturing load had been considered to be six to eight hours, but the committee's inquiry found that almost nowhere had eight hours actually been taught. An average of 4.4 teaching hours per professor in the economics faculty of one university was quite typical.

France



Bastu: an outpost of the new university.

Corsica moves provoke further unrest

from George Morgan

NICE A wave of protest has swept Corsica—already torn this summer by autonomist riots—over plans for a new university on the island. It is felt that the projected university, scheduled to open in October, 1978, will be totally inadequate to meet the educational, economic and cultural needs of the island region.

Corsicans are also indignant at what they claim is the autocratic methods adopted by the Ministry in dealing with the issue. Since 1972, when the university was first promised, the 300,000 inhabitants of Corsica have been anticipating the creation of a full-scale academic centre as part of Government concessions to local regionalist ambitions. A commission set up last year by M. Jean-Pierre Soisson, Secretary of State for Universities, to look into the problem was also known to be in favour of a plural disciplinary university providing teaching and research facilities at all levels.

Now, without waiting for the commission to finish its consultations, M. Soisson has announced that the university is to be limited almost exclusively to the first two years of studies leading up to the general studies diploma, the DEUG. It is hoped, too, that recurrent education will be catered for at a future date while a number of research teams in oceanography and Mediterranean civilisation might also be added.

The subjects to be taught will also be severely limited. According to the Minister, teaching will be required to meet the "real needs" of the island, focusing principally on administration, agriculture and tourism. In those circumstances it is unlikely that the university will

hold more than 1,000 students—only a third of the total number of Corsicans currently studying at universities on the mainland.

In a strongly worded protest to the Minister, the investigation commission has declared all responsibility for the possible outcome of the decision. A spokesman for the commission, which has the backing of nearly all Corsican political and professional organizations, said that the Minister's plan was in conflict with the Government's charter for the development of Corsica.

Corsicans, in line with academics all over France, are also angry about the Minister's unilateral decision to appoint a president for the new university along with 15 of the 25 members of the future administrative council. Since 1968 it has been usual for both the president and council of French universities to be elected by academics and students. Only one university in France—the experimental university of technology at Compiègne—has so far escaped this ruling laid down by the *loi d'orientation*.

The Minister's action is interpreted by many people as an interference with university autonomy. The experimental university of technology at Compiègne has even so far escaped this ruling laid down by the *loi d'orientation*.

The University of Corsica, which has long been one of the principal demands of autonomists, is to be based at Corte, the geographical and cultural centre of the island. Despite past and communications and a population of less than 6,000, Corte was chosen for historical and sentimental reasons. It was here that Pascal Paoli, the champion of Corsican independence, set up the first school—short-lived—University of Corsica in 1765. To ally the island's historical claims with the new university will be set up in these areas.

Sweden

Numbers start to rise once more

from Mike Duckenfield

STOCKHOLM

The number of students starting courses in university faculties with unrestricted entry has risen by 14 per cent this autumn, for the first time in six years, according to latest figures released by the Central Statistical Board.

The highest increase was for the social sciences (up 18 per cent), but numbers for the humanities (up 15 per cent) and mathematics and natural science (up 11 per cent) also rose.

Of the 18,488 entrants, 49 per cent were women—per cent more than last year; their distribution ranged from 63 per cent of the humanities intake to 32 per cent of that for mathematics and natural sciences. Women also comprised 53 per cent of all free faculty students at Stockholm University, Sweden's largest.

As reported (THESE, September 26), numbers ending the restriction on entry to university faculties also went up this autumn by 4.2 per cent. The latest figures, however, indicate that the last five years' decline in admissions has now been reversed.

The breakdown of admissions shows that the highest increase was in the three faculties which do not have a degree level (120 credit points). This influx from school has meant that the proportion of mature students has fallen from 44 to 40 per cent of the total. Two out of three students qualified for admission on the basis of experience matching nutrition and income data with physical data.

Mexico

World Bank aid

A \$50m loan from the World Bank to the Bank for International Development has provided for the establishment of the Free University of Mexico. The institution will open in 1977.

The university is to institute simple teaching programmes for the country's rural population in such areas as the best use of tillable land and new techniques in agriculture and livestock matters.

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Republic of Ireland

Future of tertiary sector remains cloudy

from Peppy Barlow

DUBLIN

Sharp differences of opinion about the best way to achieve a comprehensive system of higher education in the Republic emerged last week, particularly in relation to the most appropriate status for the newly-created polytechnic institutions in Dublin and Limerick, and the future of the National Council for Educational Awards.

Under the Government's decision of last December, the two institutions—the National Institute of Higher Education in Limerick and the National Institute of Higher Education in Dublin—have been given the option of becoming "recognized colleges" of one of the country's universities.

This would give them the same status as a college of education, in that while the parent university or university college would validate their degree awards, the subsidiary NIHE would ensure it to compare with University College Dublin in the affairs of the parent university.

Canada

Union stresses key role of scholarship

from Edward Sheffield

OTTAWA In his presidential address to the annual meeting of the Association of Universities and Colleges of Canada, here last month, Dr Larkin Kerwin, rector of Laval University, identified two urgent themes: the financing of the universities and their obligations to the Third World.

He also observed that, to take account of the pressing problems facing the university community, the association, which had previously emphasized the provision of services, was now becoming an organization devoted to higher education research and policy formulation on a national scale.

The university's fundamental task was original scholarship, he said, but "the secondary functions of the university—teaching, professional training, and other services—are much more readily accepted by governments."

Consequently, he said, governments were more inclined to pay for such services. Dr Kerwin reported that 45 per cent of the universities' income was provided by the government of Canada, 45 per cent by the governments of the provinces, 12 per cent by students and 8 per cent by other sources. He argued that a "three-way division between private (including student), Federal and provincial support should be sought in the short term but the private financing should eventually exceed a third in order to restore equilibrium of support."

Dr Claude Thibault, the recently appointed executive director of the association, said that during the past decade the universities had been so concerned with their own problems of expansion that they had lessened their support of their national association. He called for renewed recognition of the importance of the association to the universities and to Canada.

"Meanwhile, a conference on 'Women and the Universities' held after the AUCC meeting, heard that in both 1971-72 and 1972-73 women accounted for 13 per cent of those teaching full-time in the universities. Between those two years the average salary of female staff members increased from 78 per cent to 79.2 per cent of the average for male staff."

Comprehensive data on the enrolment in 1970 of women students in 16 countries showed Canada in seventh place, at 35 per cent of total enrolment, but much smaller percentages in most professional schools. Israel and Finland stood first at 48 per cent.

Conference workshops discussed women students, women faculty and women in academic administration. Women members of support staff, women's studies programmes and the organization of university research on women.

South Africa

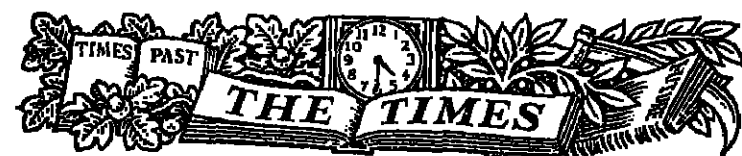
Blacks get first medical school

from Louis Holtz

JOHANNESBURG Plans are going ahead for the establishment of the first all-Black medical university in South Africa, which will help meet the need for better health services for Africans. In some areas there is only one doctor to 70,000 people. Existing training facilities for African doctors are limited to the non-white medical school at the University of Natal.

Legislation is being prepared for the next session of Parliament which will enable the medical university to be established in Go-Rankuwa in the Teyateyan homeland near Portofino. The institution will serve students from all the Bantustans.

It will train doctors, dentists and veterinary surgeons, as well as personnel for certain other health services. For practical training it will make use of the Go-Rankuwa hospital, which will in effect be integrated with the university. The institution will be autonomous but will work closely with the nearby universities of Pretoria and the Witwatersrand. The head of the medical faculty of Pretoria will act as its adviser.



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Towards the 1980s-I: The problem of Scuncheonster

Too much of Britain's system of higher education is a mess. Universities still have thousands of empty science and technology places. This is not their fault, but they are empty nevertheless. Academic staff have been demoralized by the treatment of their salary claim and their deteriorating conditions of work. University budgets have been pruned so ruthlessly that there is almost no fat left—and the quality of research is genuinely threatened. Only in some science and engineering departments is there any programming and only in these departments are entry standards dropping (though what matters is not so much standards of entry as standards of exit, which seem to be as high as ever).

So in spite of the view that it is still widespread in the political parties and in industry and commerce, universities are now the most efficient and the most effective sector of higher education. Not only are they good universities, many of them are also good polytechnics. If industry and government were as efficiently managed as universities, Britain's economy would be much healthier.

The colleges and polytechnics are also demoralized, mainly because they do not know where they are going or are not going in the direction originally intended by the Government. Since they have been unable to recruit to science and technology degree courses, arts and social sciences have been developed and expanded so that most polytechnics are really liberal arts colleges, with a higher percentage of small and medium-sized students in the social sciences and humanities than the universities. Many staff have to work in desperately cramped conditions. Only a tiny minority of students can live in halls. More and more polytechnics are therefore likely to become regional rather than national institutions.

The difficulties of the polytechnics, moreover, will only be made worse by the creation of the 50 colleges of higher education that are being planned in the ashes of old colleges of education or of the absorption of the polytechnics of most of the other colleges will only be the balance still further in the direction of arts and social sciences (however much courses are dis-

guised as "applied" arts and "applied" social science). So the paradox is that it is the non-university sector, the sector under direct local and national political control, that is inefficient and floundering.

Such a development would not have mattered so much at the start of the 1970s when it could be argued that expansion would sort out the mess. Student expansion, however, has slowed down and it is unlikely that it will ever again be so dramatic as it was in the 1960s. The Government, moreover, is desperately trying to curb the growth of public expenditure; and since education is the second biggest consumer of public expenditure, and since students cost more than the Government's main educational priorities, the prospect for higher education is bleak.

Under such conditions attention will soon turn to the situation that there is now in many cities and regions of Britain, where one or two universities, a polytechnic and one or two colleges of higher education are situated almost side by side, are offering many of the same degree courses and competing for the same students. A fairly typical, if in this instance hypothetical, situation is that Scuncheonster University admits 50 or 60 students to, say, a French, psychology or chemistry course. Scuncheonster Polytechnic next door admits 10, 20, or 30 students to a French, psychology or chemistry course, and that, soon, the Scuncheonster Institute of Higher Education, a really liberal arts college, with a higher percentage of small and medium-sized students in the social sciences and humanities than the universities. Many staff have to work in desperately cramped conditions. Only a tiny minority of students can live in halls. More and more polytechnics are therefore likely to become regional rather than national institutions.

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This is not always a nonsense, but it is generally a nonsense and it squanders money that could be spent elsewhere in higher education, on education in hospitals or new factories. It is not so easy, however, to suggest a solution or to suggest where we go from here. The TES will nevertheless return to the subject next week.

Academic publishing

from Mr Philip Allan

Sir—I am pleased that my article (TES, September 19) about academic monographs publishing has stimulated further discussion about the problems of the industry. The view of the less conventional ideas now being put forward will prove to be of lasting benefit.

The various critics of my scheme attacked it at different points and with contradictory reasoning—thus, I feel, reinforcing my view that the plan is practicable. When some say your costs are too high and others that they are too low, the changes you have made are clearly significant.

Of course in a short article one cannot deal with all the problems. Certainly the question of copyright needs a lot of thought, but planning, but, as publishers never tire of pointing out, this is not a very recent innovation. If in my plan one experienced man were to handle only 12 short books per year, there should be plenty of time for him to help authors with such difficulties as may arise.

I never claimed that costs not included in my figures were not real. I stipulated a totally non-profit-making operation and I specifically mentioned these other costs (in terms of free provision by an interested party). The point was making it simply that if the academic community does enough about good work which is no longer of interest to commercial publishers, something can be done to give a little dignity and some assistance to the academic world.

However, one should not expect much encouragement from the larger established publishing houses. When new ventures are mooted, their advice—as experience has taught me—is likely to be to "Don't."

Yours faithfully,
PHILIP ALLAN,
Philip Allan Publishers Ltd,
Deddingdon,
Oxford.

The case for Christ's College

from Mr John Mottram

Sir—One applauds Sir James Richardson's condemnation of self-defeating financial controls in the case of university buildings, which are the backbone of the academic life. (TES, October 12).

Much designing is exclusively in answer to constraints to the point where a meaningless elegance in the construction of relevant and irrelevant buildings is the result. Financial controls displace the architecture of contemplation, feeling, and involvement.

One is however surprised by the omission from his apparently catholic selection of post-war Oxford and Cambridge college buildings of Denys Lasdun's building for Christ's College, Cambridge.

By any realistic standards it was not expensive. It has a place in the development of stepped buildings in an attempt to fit in an unexpected amount of accommodation which is liked by those who live in it, and it has visual surprises and satisfactions of a high order.

LETTERS TO THE EDITOR

Sir Toby answers Paul Johnson

from Sir Toby Weaver

Sir—The baiting of bureaucrats is becoming as popular and unedifying as was once that of bears. In the second of his articles on the universities Mr Paul Johnson (TES, October 21) states with derogatory intent, first, that as a civil servant I was a social engineer; second, that I have advocated a scheme in which "universities would be grouped with polytechnics and education colleges and administered on a regional basis." Third, in his last article he quotes in a similar vein the statement of a vice-chancellor of eight years' standing that he had "never once met" me. (Nor, for that matter, has Mr Johnson.)

The facts on these three points are as follows:

● In a speech at an Organization for Economic Cooperation and Development conference in Paris in June, 1972, I said this of our universities, colleges and schools: "Continue to adapt them we shall. But what we must resist is any so-called strategy which demands their insensitive destruction to make room for a giant educational motor whose origins we question, whose foundations we suspect and whose destination we distrust. We do not think of education in terms of social engineering."

● In a public lecture at Rotherham in March, 1974, I said this about a proposal that was being canvassed to amalgamate all the higher education institutions within a single institution: "This alleged solution would leave some 15 per cent of post-tertiary learners in what would,

In our stratified society, be seen as U, and 85 per cent in non-U institutions—an odd way to abolish the binary system. I leave aside the problems of managing institutions of the formidable size envisaged running into not thousands but tens of thousands of students."

● On his own initiative the vice-chancellor concerned met me in 1972 to put some proposals to me. Courtesy required that I should listen, but a punctilious respect for university autonomy prompted me to refer him to the proper recipient of his views, the chairman of the UGC.

Finally, as to Mr Johnson's charge that in respect of the increasing sums of public money granted to the universities from 1946 onwards "the political (or rather civil service) finger gouged greedily into the succulent pie it had created," he might, in his pursuit of truth, have added the following view expressed by Lord Ashby in the course of a public lecture in 1968 entitled "Hands off the University": "Whose hands? 'The civil servants in Curzon Street have behaved with admirable propriety; there is not any evidence to support the assertion that the DES is imposing its deadhand (as one critic calls it) on the universities. The hands, whether alive or dead, are not the hands of civil servants.'"

Yours sincerely,
TOBY WEAVER,
Vicarage Gardens,
London W8.

Bristol's finances

from the vice-chancellor of Bristol University

Sir—Lest any of your readers should be misled by your brief report (the TES, November 7) that Bristol is running its accounts in credit into thinking that we have discovered the philosopher's stone or that the University Grants Committee has adopted the widely canvassed proposal that there should be a *cursus honorum* of universities with Bristol—justly—at the head of the list, let me disabuse them.

We have achieved this happy state of affairs simply by running down the university's 62 vacant academic posts along, as the last count. But should any of your readers believe that I or my colleagues think that this is a sensible way to run a university, a university system, or even a country, then again they would be wrong. Yours faithfully,
ALEC MERRISON,
Vice-chancellor,
Bristol University.

University libraries

from Mr Peter Durev

Sir—Nicholas Moore's article on university libraries (TES, October 24) really will not do. It reveals an extraordinary lack of knowledge of the recent history of British university libraries.

To read the report of the Committee on University Libraries published by the University Grants Committee in 1967 would be to get the misleading impression, which Mr Moore gives, that thought on the nature of university library collections and their staffing and on regional and national cooperation is a recent development brought about by economic stringency.

It is nonsense to claim as he does that until recently the objectives of British university libraries was to build as large a stock as possible. In fact the primary objective of British university libraries in the post-war period has been to build collections tailored to the needs of research workers and undergraduates in the university communities they serve.

This has been no easy task, in the face of very considerable financial limitations throughout the period, and not merely of recent years. It is instructive, for example, to compare the financial resources made available to the libraries in the Federal Republic of Germany.

I do not believe that British university libraries need feel ashamed of their involvement in regional and national co-operation. There are a number of instances of long-standing schemes and it was the impetus provided by the universities which eventually led to the creation of the British Library.

Emphasis of the role of the university library staff in the exploitation of the collections can be traced at least as far back as the early 1960s, when the new university libraries were founded. The staffing and resources of almost all the new university libraries embodied this concept. Even a cursory reading of the literature will show this was a deliberate change in the philosophy of librarianship and nothing to do with economic pressures.

In short, Mr Moore's comment appears to me to include a number of totally unwarranted assertions. The image of the British university library as a relic of the nineteenth century is a relic of a current economic difficulty, not a relic of the real state of affairs. The current economic difficulty will be made even more difficult if the university libraries are to be made a satisfactory library service for members of the university community in Britain.

Yours faithfully,
PETER DUREV,
Librarian,
University of Auckland,
New Zealand.

A passionate vision of nature, dated by style and form

Andrew Causey discusses the changing fortunes in the reputation of Paul Nash, a major exhibition of whose paintings opened in London this week

The Paul Nash exhibition which opened at the Tate Gallery this week is the first comprehensive showing of his work since the memorial exhibition there in 1948, two years after his death. Nash then had a substantial reputation among painters, but it was to prove short-lived, soon to be eclipsed by the different achievement of the best new painting of the 1950s.

His late paintings, romantic landscapes infused with personal symbolism, on which his reputation was founded, were remote from the preoccupations of younger artists after 1950, and despite the remarkable energy of his widow, Margaret, who worked for his reputation until her death in 1960, his influence underwent a more drastic decline than that which ordinarily follows an artist's death.

Only in the past few years have shifts in artistic sensibility indicated that the time may have come for a full-scale presentation of Nash's art. Nash was born in 1889 and his career as an artist ran from 1910 to 1946. His earliest pictures date from the years of Roger Fry's post-impressionist exhibitions at the Grafton Gallery (1910 and 1912), which were seminal to the creation of a modern art in England.

Nash did not immediately follow, developing at first a highly individual method of landscape drawing which involved gathering material on his own, showing, and went to Canada in a modified form the following year, a memorial volume of essays together with a corpus of reproductions which was then the most valuable source of information about Nash's life and work.

In the twenties and thirties Nash gradually, and not without difficulty, came to terms with post-impressionism, cubism, metaphysical art and surrealism. But he learned the various languages of modern art in order to make them work for him in a personal way, and the element of privacy in his work before 1914 never completely disappeared.

Nash's was a passionate vision; the depth of his feeling has never been in question, but the methods he developed to express it have given concern to artists and critics on the grounds that he picked indiscriminately among the modern styles to find clothing for his ideas. But he no longer the emperor's new clothes. There are a number of instances of long-standing schemes and it was the impetus provided by the universities which eventually led to the creation of the British Library.

The Second World War destroyed the ties with continental art that Nash and a handful of others had cultivated over the previous decade, severing the crucial link with Paris.

But in his last years Nash, though by then a chronic asthmatic and only able to cope with war conditions only at the expense of considerable suffering, was in his life his pictures as fast as he could produce them, and he was encouraged by the growth of a personal artistic vision.

Nash's reputation at his death, enlarged by his widow's efforts, and largely as a result of her efforts, a substantial literature had grown around Nash's art. His correspondence with the poet and playwright Gordon Bottomley, a friend from 1910 till his death, was published in 1955, and reinforced Nash's reputation as a writer, while "The Landscapes" by the painter and poet, published in 1956, revealed his sociability and sense of humour, the curious naivety that survived into his adult life, his personal vulnerability, and especially in early life, his unusual dependence on close friends.

were in any case restricted by the limited possibilities of their own art. Their imagery was still related to surrealism, while Nash had seen in the late thirties that surrealism as a movement in painting was atrophying, its ideas and forms becoming repetitious, and it was partly as a personal escape from surrealism that Nash had evolved his late landscape style.

Nash was fortunate in having in his last years a champion in John Rothenstein, the director of the Tate Gallery, who, from the late thirties, had been building up a well-chosen group of his pictures for the national collection. He also enjoyed strong critical support from influential writers such as Herbert Read, R. H. Wilenski and Eric Newton.

But after his death the major effort on his behalf was made by his widow Margaret, though her industry and energy were not enough to win a battle against a gradually waning interest in his work. Margaret Nash persuaded dealers to exhibit his pictures, refused to part with major paintings except to public collections, and ensured that they remained on public view, and promoted the publication of his work.

The results were many: the memorial exhibition of 1948, which toured provincial galleries and was shown in London, and went to Canada in a modified form the following year, a memorial volume of essays together with a corpus of reproductions which was then the most valuable source of information about Nash's life and work.

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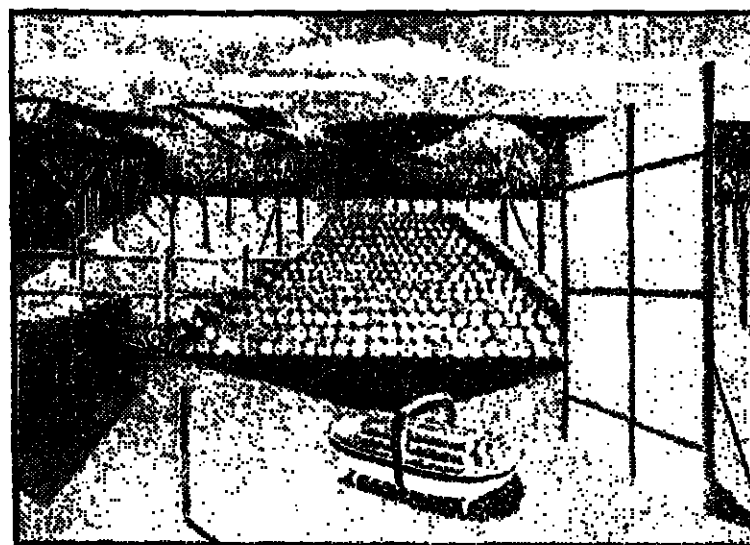
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"Landscape at Iden" by Paul Nash.

George Wingfield Digby, in his long essay on Nash in *Meaning and Symbol in Three Modern Artists*, also published in 1955, recognized parallels between Nash's painting and far eastern—especially Chinese—art, and was also the first to link Nash with Jung, perceiving that Nash's art was not only of the time but also part of a world-wide and ageless cultural pattern.

Nash collected imagery from innumerable sources and, while the acts of acquisition were not generally backed up by any detailed research into the original meaning or use of the images, their incorporation into his art was not casual; images were used to amplify and develop the iconographical structure that Nash knew he was building.

The third publication of 1955 was Anthony Bertram's authorized biography. Bertram was a friend of Nash from 1922, when he had written the introduction to the first monograph on Nash's work. Bertram's book is in many respects exemplary, a detailed portrait based on letters, interviews and personal documents, commendably accurate and unlikely ever to be superseded.

As a character study it was criticized by some who knew Nash partly on the grounds that analogies between some of the symbolism in Nash's pictures and Catholic doctrines and texts appeared to attribute Catholic beliefs to Nash, who had no definable religious convictions.

But the breadth of Bertram's understanding, especially his knowledge of poetry which was one of the mainstays of Nash's inspiration, led him to realize that Nash's comparatively uneventful life and the formal development of his work could not by themselves establish a whole or truthful picture.

Without endorsing Bertram's rather injudicious emphasis on religion, it is possible to pinpoint traits in Nash's art—the way it reflects his sense of ubiquitous energy, his feeling for the power of darkness and his interest in the subject of sacrifice which was brought out by the First World War—that make analogies with Catholic tenets plausible.

Around 1950 a period in English painting came to an end. In the first decade of the century England had needed the continental influence to that was to lead to Bloomsbury painting and vorticism, and in the late twenties had been released by European modernism from the rut of post-impressionism.

Similarly in the 1950s a comparable reevaluation of English painting took place, assisted at first by post-war Puritan painting and subsequently by the New York abstractionists.

English painting was virtually reinvented in the 1950s, and it is not surprising that Nash was forgotten. It was not that his sensibility was irrelevant; there were still painters who experienced nature as he did, as something ubiquitous, forming the ambience not only for human activity but for the nurturing of consciousness.

But while Nash had worked from the standpoint of an artist to whom cubism and surrealism were new discoveries that offered unexplored possibilities for the younger writers, they were established elements in the syntax of art, available for use and development but no longer adequate in themselves for the expression of ideas.

This kind of framework for an assessment of Nash that writers like Digby and Bertram began tentatively to pulling in the mid-fifties may be definable more precisely

He does not have, like Henry Moore, a world-wide reputation based on a style of work formed two decades and more ago, from which younger artists have often felt the need to dissociate themselves.

Sculptors in the sixties sometimes played down the influence of Moore, even when it was visible in their work, but no painter ever needed to reassure his audience that he was not painting like Nash. Though Nash could still be alive today (aged 86), he will be viewed as the last of a kind, a last-established master, which increases the likelihood of judgments being dispassionate.

A Nash revival, in the sense of his art becoming directly imitated, is improbable and certainly undesirable. In terms of painting style Nash was committed to the problems of his own period, and it would be pointless for artists to rework that ground now.

But Nash's sensibility, his attitude towards nature, and specifically landscape, is still relevant, and his work can still relate to aspects of contemporary art in this respect.

The Tate's small exhibition in 1973 of his photographs pointed to a link between the approach to landscape exemplified in them, and the method of certain contemporary artists in England and elsewhere who have found in the photograph a better medium than painting for realizing their response to nature.

The artistic sensibility to which the landscape photograph appeals is not easy to define but there is involved the need to strike a particular balance between revelation and concealment.

The selection of a landscape subject and its exposure on film can create a picture which is clear and direct, and yet at the same time reserved and private, because it represents the artist's mood and personality without bearing the visible mark of his hand—the selection being "artistic" but the process of realization being mechanical and not manual.

Nash would have profited from the ready acceptance today of new media for the fine arts. Though he did exhibit his photographs alongside his pictures in a small number of exhibitions, he used them mainly as material from which to paint pictures.

The essential points of interest, however, is not that Nash was constricted by a more limited definition of art than he would be today, but to appreciate that his sensibility for alive and complex nature, in its styles and forms are mainly of historical interest.

The author is lecturer in the history of art at Manchester University.

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Bending the white system to fit the black shape

Roll, Jordan, Roll
by Eugene D. Genovese
Deutsch, £7.50
ISBN 0 233 96717 6

Eugene Genovese has long been considered one of the most brilliant, as well as one of the more controversial, historians of American slavery. His latest contribution to this field, *Roll, Jordan, Roll*, was published in the United States several months ago and received almost universal critical acclaim. Amidst the applause, however, could be heard an angry sceptical reaction from some black American critics. Two of the reviewers for the black radical journal *Freedomways*, for instance, saw the book as essentially "racist in content" and even attack the author for "pseudo-Marxism" and for attempting to apologise for slavery (see especially Earl Smith, "Roll, Jordan, Roll", *Freedomways*, Spring 1977, pp 46-9). Such strong criticism does not seem justified.

Roll, Jordan, Roll is part of an ever-growing body of historical scholarship that demonstrates that slavery was a more complex, less totally brutal and repressive institution than had been thought previously. This view has been taken to an extreme by the highly publicised climactic work of Robert Fogel and Stanley Engerman, but the picture they drew is not the same as the one painted here by Genovese. Here is a far more accurate image of slavery than the one projected by *Time on the Cross*. The life of the slave is neither simplified nor idealized. It is seen as highly complex and variable. On some plantations and farms the slaves were well fed and cared for, and indeed, some consideration was given for their emotional and psychological needs as well as those that were physical and material. All this was good management as well as basically humane. In other places, Genovese has no doubt, slaves were badly treated. There were sometimes underfed to the point where they would supplement their inadequate diets with dirt "and worked themselves into a stupor". They were severely beaten, mutilated by dogs, and continuously degraded by sadistic overseers or owners; very occasionally they were brutally murdered. But as this was usually a self-defeating way to run a plantation, as well as being inhuman to the point of psychosis, he postulates that such behaviour was not too common.

That it was common enough to ensure a steady flow of runaways is also well supported. Genovese discusses the flights to the northern states and Canada and the intricate services used by slaves to disguise the nature of their travels. He also is aware that large numbers successfully sought refuge among the Indian tribes in the Florida swamps, but surprisingly gives the erroneous late date of 1830 for the time when ex-slaves and Seminole Indians joined together "to make a heroic stand against white power in Florida".

In general, however, the scholarship is exemplary and meticulous and over runaways, as in other areas,



A marriage being celebrated between negro slaves belonging to a rich household. © Radio Times Hulton Picture Library.

he is careful not to indulge in any dubious statistical generalizations. Fogel and Engerman have not given credibility to statistics in this area. Genovese's book is essentially different from Fogel and Engerman's because he makes it clear that although the slave system was not as degrading or debilitating as Elkins made out it was still a hard and oppressive existence. The slave world, mirrored in *Time on the Cross*, would have taken little oblique or reserves of argument to survive since it was a more comfortable existence than that of many working men elsewhere. The slave world reflected in *Roll, Jordan, Roll*, on the other hand, was more complicated, arduous and difficult than that known by free workers and was made tolerable only because the slaves altered and remoulded the institution itself until it was a framework within which black identity, self-respect and often happiness could survive, and in some circumstances even grow. He emphasizes continuously that the slaves were adept at making the most of every opportunity for self-fulfilment and relaxation, that they remained cheerful in spite of much adversity. They guarded and treasured the integrity of their family life and they imbued their religion with a sense of vigour and movement that was alien to existing white traditions.

Genovese is particularly thorough in his delineations of the religious differences between blacks and whites of the same denominations. He notes the banishment of the religious slaves circumscribed the religious condemnations of dancing as sinful by developing the "ring shout" which was categorized as a sung religious ceremony, but which

involved a great deal of very rhythmic movement. Religion is found by Genovese to be a powerful force that affected positively and negatively the general responses of the slave to his constrained situation. The unique, African-influenced character of their religion demonstrated that all men were equal in the sight of God helped give them the strength and determination to subtly alter the nature of slavery until it became for the most part tolerable. This, in turn, moved or dulled for the majority the need to actually revolt, to destroy through revolution the entire fabric of slavery.

Revolt was, in any case, an almost impossible form of resistance on most Southern plantations. The plantations or farms were often too small to sustain in one place the numbers that a successful revolt would have demanded. Most importantly, the slaves knew that only revolt would bring down upon themselves the greatest, most ultimate retribution: whereas more individual forms of insubordination might go unpunished, revolt would allocate proportionately little space to slave revolts because of the author's decision that they assumed a small space in slave consciousness; nevertheless the section of the book that deals with these "doers" opens frustratingly perfunctory. Only the three main slave rebellions are dealt with and

little illumination is cast on the behaviour patterns that lay behind them. Denmark Vesey alone is considered to warrant some analysis as the only rebellious leader who genuinely represented his people. As many other historians have done, Genovese emphasizes that there is a decided lack of evidence to support the traditional myth of slave promiscuity. Most slaves were probably more than happy to be contented with their lot, sought to maintain a nuclear family against any difficulties. He is rightly tentative in his estimates of the number of pairings between slaves and their masters, but his intelligent speculation that there were probably more than have been documented seems reasonable. He adds a valuable dimension to the study of slave miscegenation by pointing out that even many of the relationships that began with a slave in an unwilling or semi-reluctant partnership developed into mutual loving with white fathers taking over responsibility for their mixed offspring.

Perhaps most significantly for the student interested in the traditional roles of the sexes within the black family, Genovese reinforces the idea that most families were headed by a strong black man. Even where the father was unable to reside with the family he still usually managed to create a positive male image for his children to respect or emulate. *Roll, Jordan, Roll*, valuably pulls together many of the strands of the ongoing research into the complex, rich and retained and developed by American slaves. They constantly showed evidence that they had not forgotten their African traditions in their folk tales, music, medicine,

night-funerals, "second-burials", burying food with the dead, and the angle at which their beds were placed. They retained what was possible from their old culture and took what was useful from the new.

In all aspects of their lives the slaves displayed a traditional African life-enhancing ritual that slavery at times muted but could not silence. Genovese has not done the black community a disservice in making this clear. He also gives cause for pride when he points out that the slaves were always very supportive of each other. The suicide rate among slaves was probably so low because each individual could feel that those around him cared. There was a strong and enduring sense of collective responsibility. Even when slaves stole or committed arson in defiance of the system, few were ever given away by their companions.

The slaves forced most plantation owners to accept some level of sabotage and thieving as an occupational hazard of owning slaves. To the slave such actions were symbols of his inner independence, his lack of identification with the master-aspect of slave resistance. Genovese has always emphasized in previous works as well as in *Roll, Jordan, Roll*. Perhaps the strength of Genovese's contribution to an affirmation of black survival through slavery can be best expressed in an extract from his closing pages:

"The slaves' insistence on defying paternalism in their own way represented a rejection of the moral pretensions of the slaveholders, for it refused that psychological surrender of will which constituted the ideological foundation of such pretensions. By developing a sense of moral self and by asserting rights, the slaves transformed their acquiescence in paternalism into a rejection of slavery itself, although their masters assumed acquiescence in the one to demonstrate acquiescence in the other."

This book is not, as some black critics have claimed, a defence of slavery. It is rather a celebration of the black capacity for survival. If he does not go into great detail over the most evil aspects of slavery, it is surely because he assumes his readers to be well aware of that full horror and he feels that it is in other aspects that need filling in. Most of all he leads the reader to the conclusion that subsequent periods of black history now need the closest inspection. The majority of blacks survived with their integrity and families intact, why did the migrations to northern ghettos have such a corrosive or divisive an effect? Eugene Genovese has written a brilliant book that makes it abundantly clear that the black people of America have suffered much of the damage inflicted by the slave institutions. This book is a tribute to the ability of the black people to survive and to the black pride and tenacity that beat against the slave system until it bent into a more tolerable shape.

Mary Ellison

Return to the windmill

World Energy Strategies: Facts, Issues, and Options
by Amory B. Lovins
Wiley, £5.60
ISBN 0 913890 09 X

Energy Options in the United Kingdom: A Symposium
edited by S. Caradoc Evans
Lutterworth New Dimensions £3.00
ISBN 901539 45 X

The complexity of the problem of long-term energy options, which was compounded and highlighted by OPEC's reaction to the Yom Kippur war of October 1973, is reflected in the fact that two years after this event the strategies of virtually all highly industrialized western countries are still in considerable disarray. The reason for this is not hard to find. Detailed consideration of future energy options embraces not only science and technology but politics, economics, sociology and even moral issues. Thus policy makers are bombarded with conflicting advice from a variety of specialists and few people as yet have developed the ability to see the problem more objectively.

Such a person is Amory Lovins and this new edition of his essay "World Energy Strategies" is undoubtedly one of the first authoritative and comprehensive overviews of the whole subject. It is distilled, into a comparatively short work for such a vast topic and as a result is a heady concoction providing a brilliant, witty, and often witty synthesis of a problem which verges on the intractable.

Dr Lovins side-steps the muddle of short-term policies and concentrates on identifying the constraints which will determine long-term strategies. As with any such analysis it soon reveals the desirability of discarding several cherished economic principles of the past and the overriding necessity of teaching everyone, not least economists, the meaning of the second law of thermodynamics. The approach is a refreshing one in that it focuses not just on the obvious physical con-

straints of finite resources, but on economic, political, environmental, and sociological constraints which are likely to be encountered first. In so doing Lovins provides some interesting insights into the options open to us at the present day.

The author's extensive use of footnotes throughout is useful when it comes to references, but becomes annoying when they include data and discussion which could well have been incorporated in the text. This is particularly true of his section on nuclear energy where, as a physicist, Lovins is often at his best but also, at times, his most esoteric. The net result is that this section is disjointed to read and difficult to follow. I also feel that it does not emphasize sufficiently the differences between "burner" and "breeder" reactors and the fact that there is considerable economic and political pressure to develop breeder reactors, perhaps rather precipitously.

Energy Options in the United Kingdom is the proceedings of a conference held in London in March of this year sponsored by the Friends of the Earth, the Conservation Society and the Environmental Communications Organization. At the height of the energy crisis, arising from the imbalance and omissions that one might expect of a multi-authored text.

However, detailed reading is more rewarding. It consists of a brief introduction, a transcript of the discussion, and four papers; on geothermal energy, solar energy, wind and water power, and high and low-growth policies. One gets the impression, therefore, from the first part of the book that only renewable and environmentally "clean" resources are to be considered. This emphasis on the alternative technologies with their rather limited potential in relation to current and projected consumption rates seems a little odd.

Nevertheless, this deficiency is rectified in part by C. H. Armstrong's consideration of the general energy problem at the end of his paper on geothermal energy, and in particular by Peter Chapman's interesting article on energy, accountancy and high and low-growth policies. Both provide perspective and breadth to what would otherwise be a rather incomplete consideration of the problem.

F. J. Vine

Zealous reformers required

The Study of Government
by P. B. Ridley
Allen & Unwin, £5.50 and £3.35
ISBN 0 4132106 7 and 320107 5

Professor Ridley's readers can be forgiven for imagining that they are facing the podium of an inaugural lecture as they start to read *The Study of Government*. Much of the book is an amalgam of the author's journal contributions over the years and starts with his Liverpool investigation in 1965. As such, it tells us as much about the man as his subject. It is refreshing to find someone with a clear idea of where he wants to go and with such a broad grasp of the theory and practice—past and present—of his chosen subject. Whether writing of the French prefectural system, German railways, or the British public corporations, the touch is the same.

But this is not a book primarily about these things. It is a plea for the return to an institutional base in the study of government, a reassertion of the belief that we must extend beyond the behavioural influence. Government may be important because it is a reality and the people who administer it, and the people who suffer from having to administer it, are real. But it is also a reality that government is a social activity, much that happens within the context of formal rules and institutions. These rules and institutions are not neutral; they have, rather, been set up to embody particular ideas of how to achieve well-defined purposes.

The student of political science who is not prepared to study these institutions so that knowledge and understanding can be advanced. His responsibility runs further, though, than the second of the books

major themes—requiring him to work for the "relief of man's estate". Pure academic interest in government is not desirable unless it is accompanied by a wish to reform.

There will be many, no doubt, for whom this call to social responsibility will seem strange or even unacceptable. For one who has crossed the great divide between the study and the doing of public administration the pleading strikes an important chord. If only there were more academics of Ridley's quality who would exercise this responsibility, the world of government would be a better place. When it comes to changing administrative structures, how much better to have the advice of someone with close knowledge of similar arrangements in other places than to have to rely on management consultants' hotfoot from the problems of a middle eastern oil company or an airline to a French shoe factory. It is one of the saddest indictments of the public administrators of today that they allow themselves to be pushed around by consultants who appear to know little about government, but who are paid to advise on the implications before the event than after.

The central messages of the book are hard to deny. It is only unfortunate that they are tucked away in a book which few will read and which, in any case, is little more than a configuration of a decade of writing in professional journals. It is in the journals, incidentally, and not in the book that the footnotes occur. Publishers who encourage the absence of footnotes—even in the interests of economy—do so at their peril.

Michael G. Clarke

Praise for an economist

Studies in Political Economy: volume 1. The Interwar Years and the 1940s; volume 2. International Trade and Domestic Economic Policy
by Donald MacDougall
Macmillan, £10.00 each
ISBN 333 15717 1 and 15712 5

Sir Donald MacDougall belongs to that distinctive order of economists who use statistics to feel their way through the complexities of the modern world, and who are not to be confused with those econometricians who endeavour to charm the statistics into meaning something they do not. He is in the distinguished line that included Robert Giffen, Josiah Stamp, A. L. Bowley and Colin Clark, who patiently developed statistical indicators and enjoyed the excitement of watching to see what they would indicate. Some economists boldly prescribe policies drawn from their own intuition, safe in the knowledge that they will never be put into effect. Sir Donald, by contrast, as government adviser during and after the Second World War, and as economic director of the OPEC, has had the awful responsibility of formulating policies that were likely to be applied.

In these two volumes, the author has collected 22 papers that have been published in books or journals between 1938 and 1974. Because he has been preoccupied with the pressing economic problems of the day, the collection may be approached as studies in applied economics—demonstrations of how the practising economist works in his (statistical) materials; or as a time series in economic history, composed in the manner now popular among historians of writing down the history as the events occur.

So the dramatic episodes in Britain's economic career are recounted, with occasional excursions into the history of other countries. The first, and longest, paper is on the British trade cycle, 1929-37, in the middle of which a fifth of the insured population were unemployed, wage rates fell by 5 per cent, and retail prices by 15 per cent. The second paper deals with inter-war population movements, another with Churchill's war-time statistical section, after which we are in the throes of the problems that have beguiled us since 1945: the balance of payments and international trade.

Volume two continues the study of international relations, then has two papers on Britain and Europe, and four on domestic economic policy. A presidential address to the Royal Economic Society (1974) is added as an epilogue.

Sir Donald is at his best when he examines the statistical slides on his microscope and shows how they should, or should not, be interpreted. He is less successful when he follows the technique, popular in economics, of attempting to deduce from a model containing unreal assumptions how the real world will behave—a technique he employs in a paper on "The benefits and costs of private investment from abroad": a theoretical approach written when he was visiting professor of economics and finance at the Australian National University. His own favoured method is to regard the world not through a glass darkly, but face to face, a technique whose superiority he demonstrates in his *Notes on Professor Hicks's comments on the "simplification" used by Professor Hicks*. "In several places he assumes certain variables to be constant while others change, and the resulting conclusions, many possibly misleading, some readers unless they are cautiously interpreted."

The epilogue, "In praise of economics", leads me to think that Sir Donald has perhaps not squarely confronted these differences in method. What sort of economics is it? If all sorts, then we are restricted to the highest common factor shared by all. But a close reading of the chapter shows that this is not its intent. The sort of economics that is praised is one in which cumulative causation, as against static equilibrium economics, can prove an obstacle to an understanding of what is really going on; one that avoids excessive relative emphasis on theoretical refinement; in which a sense of humility is instilled by attempts to predict the real world for practical purposes; and which, as an essential complement to the search for causal relations, uses more direct inquiry into how economic man behaves as consumer, saver, worker, manager and so on. Sir Donald has set an example in this respect that, I hope, future generations of economists will be inspired to follow.

Guy Routh

BLACKWELL'S and SOCIOLOGY

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General Editors: Philip Rieff and Bryan R. Wilson

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JOSEPH GABEL

Translated by Margaret A. Thompson
with the assistance of Kenneth A. Thompson

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Translated by Maurice Freedman

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RAYMOND ARON

Translated by Barry Cooper

The author's aim in this book is first to follow Sartre's political progress and, more importantly, to disentangle the problems that Sartre has posed which bear on the specificity of historical knowledge. £6.50 net; 0 631 15870 7 (hardback)

BASIL BLACKWELL PUBLISHER OXFORD

Search for new words — an American pastime

American Literature, since 1900
edited by Marcus Cunliffe
Barrie & Jenkins, £5.00
ISBN 0 314 05161 7

The seventy years covered in this book constitute a period in which American literature moved from a mainly defensive position, either gauche or genteel, to one of super-power magnitude and élan. As Professor Cunliffe puts it, "The first problem which confronts the critic is that during the early part of the period most of the major American writers left the country. Indeed that tradition of the political or aesthetic refugee is still maintained. A second problem is one of terminology."

The trouble with this sort of generalization is that it provokes an equal and opposite generaliza-

tion. Malcolm Bradbury and David Corker begin with a closely argued study of "the American contribution to modernism", focused on Gertrude Stein. This, like Leavis's study of Eliot, is a later essay than the task of exploring what happens when modernism is no longer modern, but that are very to the new wave of post-modernism. It is Fiedler's suggestion: "We need some new words."

Leslie Fiedler suggests that we should use a new word, "epiphany", to replace the old word "epiphany", an old word dedicated to joyous mythology and prophetic irresponsibility. "It is a word of self-protection, a word of self-preservation, a word of self-preservation."

This trouble with this sort of generalization is that it provokes an equal and opposite generaliza-

tion. It could be argued that the new age demonstrates considerably greater sanity and irony than that typified by, say, the Hudson Institute or Encyclopaedia Britannica. In the night culture, Professor Cunliffe also explores the post-modernist notes that "the literary critic" has taken the name from the Master to the psychodrama—this strategy on the central moral issue of the post-modernist is to "redefine" the word "epiphany" and conclude "some American writers" and therefore the best place for the writer, this is where the action is. Which brings us back to the first problem.

This collection is not exactly a textbook survey with the traditional principle that implies that readers will find plenty with which

to agree or disagree. Some of the essays are at variance among themselves. In the field of poetry, for the Beat and Black Mountain poets, while Aleksandar, Neibuiter concentrates on those of greater academic orthodoxy. Geoffrey Moore gives a sharply-balanced assessment of the difference between English and American poetic language.

Irving Wardle surveys drama since 1945, giving most weight to the underground theatre and in particular the role of the director. David Moore writes about the drama of the post-war years, but seems too ready to make a pretension for achievement. Some will find his assertion that O'Neill's *The Iceman Cometh* is "a masterpiece, arguably the greatest work of the modern theatre" wholly ridiculous. There

is always a moment in plays of the period when the author feels impelled to make some statement about life; you can see it coming for hours, like a covered wagon across a prairie. Ursula Brunsen devotes a whole essay to William Faulkner, as he deserves. The novel suffers from having too many names, as does Marshall Deutscher's short walk through the "American literary canon". The collection, as a whole, is a stimulating rather than a definitive one. It is a book that is likely to be essential reading.

Timothy Kinn

Martin Gibson

Francis Cheers

BOOKS

Technology transfer

Proceedings of the 15th Machine Tool Design and Research Conference
edited by S. A. Tobias and F. Koenigsberger
Macmillan, £59.00
ISBN 333 15057 0

This volume contains 85 papers, plus the opening address, given at the 1974 Machine Tool and Design Research conference at Birmingham University. The past session discussions do not appear to have been included, though the flysheet claims these are in the contents. The range of topics is very large, covering group technology; computer numerical control; computer aided design; machine tool elements; metal cutting; machine tool dynamics; noise; grinding; electro-discharge machining; hot forming; die life; rolling; drawing; cold forming; compaction and general forming. As the standard of presentation of figures and photographs is very good and the research described must have cost millions of pounds, the price of £59.00 would at first appear to be good value for money. However, the variety of topics is the major criticism of the volume. The papers all have some connection with manufacturing using metal, but the specific papers are so diverse and often specialized that very few manufacturing companies, research establishments or even universities and polytechnics would find even 50 per cent of the papers relevant or applicable to their interests.

For example, I have been involved in machine tool research for ten years and yet only 30 of the papers are minimally within my area of interest and on detailed examination this number reduces to 15. The argument could well be raised that

I am too much of a specialist and that the papers are more useful to industry, where the whole range of topics is useful. This appears to be the publishers' view, who state on the cover "The contributors come from industry, universities and research establishments. The inclusion of industry first is significant, particularly as under 10 per cent of the papers were presented by industry. Universities and polytechnics provided 80 per cent and the remainder came from research establishments. The publishers and the contributors clearly hope that the volume will be useful by communicating research results to industry and this was the main theme of the opening address by J. W. Atwell: "As I thought about all this work going on in universities and research centres in many countries, I was reminded yet again of the problem of communicating these ideas and now developments in engineering in manufacturing industry who should be making use of the information and I wondered what plans were being made to improve the communication of this knowledge—what has come to be known as 'technology transfer'."

The problem is that to understand the research papers a specialist is frequently required but then the specialist does not have a general knowledge of the whole manufacturing industry. However, the man with the general knowledge is not specialized enough to understand the papers. The volume is thus rather expensive and too broad for the specialist, whereas it is too specialized for industry. In my opinion, some intermediaries are required, such as the research associations who will be able to employ sufficient specialists to understand the research and who will then act as filters and communicators to industry.

B. J. Stone

Working with limitations

Engineering Design
by John Stephenson and R. A. Calender
Viley, £13.65
ISBN 0 471 82210 8

There is no other topic in engineering education circles that causes more controversy than engineering design; this may seem strange since most are agreed that design is the essence of engineering. The arguments usually stem from those who believe that you have to master science before you can design, leave it to industry they say. The real challenge in engineering education is to seek a balance between the extremes of untutored intuition (leaving it to industry) and of academic sterility (leaving it to the universities). Many would argue that this can be provided through the activity of engineering design. Continental practice has usually been through the machine element approach by getting students to size different components, according to strength criteria, such as gears, wheels, shafts, springs, couplings and so on. In some British and North American universities an integrated approach has been tried which involves not only strength aspects but also performance and manufacturing requirements linked with management and financial considerations.

This book seems to aim at a mixture of both; the primary accent is definitely towards the component design approach with a few short chapters on economics, communication, materials and so on. The authors state that in a seven-hundred page book such as this the dilemma of compromise has not come across. It is what design is about—making decisions about materials, subject to availability and cost; ensuring that the parts or system will perform reliably to within certain prescribed limits and that the manufacturing skills and machines are available to produce them at reasonable cost. The authors seem to be unaware that the component design approach is already dealt with in a number of books which are not referred to. Even the fundamentals of stress analysis—and that is especially what the book is about—are

not rigorously expounded through the elementary but vital notions of equilibrium, compatibility and stress-strain requirements; for, if they had, a proper awareness of the importance of plastic design methods would have been more evident.

The book is divided into three main parts. The first and last of these are of general interest regardless of engineering discipline while the middle one deals with the strength and design limitations and is practised usually by mechanical and civil engineers. There are 15 short appendices containing various formulae and other data together with graphs of elastic stress concentrations and factors and tables on bearings and materials—all standard stuff which is readily available in handbooks. The text is nicely produced with clear print and good diagrams; the work sheets give a flavour of "real" design calculation. A revealed deficiency of one of Newton's laws, which is a pity, the photographs are uninspiring and often indistinct. Each chapter is appended by lists of references and collections of problems; there are no guiding answers to the problems.

Important features of design activity are missing. These include hand sketches, often the starting point in design—these link a single sketch in the whole book—breaking large problems into smaller manageable ones that are amenable to analysis, doing some small sums before refinement, by more sophisticated methods, elementary concepts of numerical analysis, optimization and reliability. These are all difficult topics to write about—often subjects in their own right—but along to precise, but in a book of this size they should have appeared in one form or another. It could well be that the book has been written around the special needs of course structures in Australasia; perhaps, by virtue of the degree course there lasting four years instead of three, as in the United Kingdom, more time is available for the specialist topics which are made to work. On the whole the book is unlikely to be suitable for British undergraduates.

R. K. Penny

Science and computers

Laboratory On-line Computing
by J. E. Brignell and G. M. Rhodes
International Publishing, £8.75
ISBN 0 7002 0258 7

Few technological innovations can compete with the explosive growth of computer applications in experimental science. One aspect of this growth has been the use of a computer in direct association with scientific instrumentation, either as a means of collecting and analysing data, or as part of a control loop. The authors have chosen this aspect of computing as the subject of an interesting textbook. The subject is a broad one and any text would necessarily be selective. Recognizing this Brignell and Rhodes have adopted an approach which shows how to arrive at optimum solutions to specific problems. This approach necessarily makes considerable demands on the reader who is assumed to have a sound knowledge of electronics, mathematics and of "ordinary" mathematical computing. Therefore, it must be assumed that the intended readership will be mainly at the postgraduate level and it is unlikely to be used as a textbook on undergraduate courses. This is disappointing, since many postgraduate courses in chemistry and related subjects now place considerable emphasis on the application of computers in instrumentation.

The book is in two parts; the first deals with aspects of software, hardware and mathematical techniques, as they affect on-line computing; the second part emphasizes the conversion of scientific instruments into computer

peripherals. In the first part we find a useful justification for the use of a computer, followed by an excellent treatment of hardware, software and the interaction between the two. Although much of the content of these early chapters will be familiar to the intended readership, it serves as a useful introduction to the rest of the book; many of the newer devices mentioned, but the new and particularly useful UARTs appear to have been overlooked. The final chapter in part one introduces the mathematical concepts used in part two and this is particularly valuable because of the personal experiences in data sampling and optimization quoted by the authors.

Part two, "Using the Tools", shows how scientific instruments can be used as computer peripherals. Many interesting points emerge and the penultimate chapter "The Computer Oriented Laboratory" is another strong feature, which because of its practical and fundamental approach, really should have appeared much earlier in the book.

In terms of its scope and content, this book has succeeded in providing a general overview of the subject. The style, however, is somewhat unusual for a scientific textbook containing as it does, some comments which, whilst amusing, seem out of place. One example is the phrase "experimental on-line computing, like a football match or an orgy, is essentially a game for more than one player". Scientists and engineers might well have appreciated a more precise text in which the emphasis was a crisp exposition from first principles.

Graham Beech

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BOOKS

Mysterious no more

Fundamentals of Operating Systems
by A. M. Lister
Macmillan, £7.95 and £2.95
ISBN 333 16867 4 and 18443 2

The number of people who regard computers as an inscrutable mystery is rapidly decreasing, but there are many regular users of computers who continue to take this attitude about what is known as "system software". In part, this is due to the attitude of manufacturers, who insist that it must remain a mystery, and who discourage would-be solvers by continually changing it and decrying today what they were extolling yesterday. Although some of this is just common dishonoury, some of it, like some of the uses of the Official Secrets Act, is due to a genuine need for security. The opening remark of Lister's book, that the operating system is probably the most important part of the software in a computer, may reflect the current attitude that control and management is more important than production, but it also reflects the fact that since we have to live with it we had better understand it.

Based on lectures to students in their final undergraduate year, the work will be difficult but not impossible reading for those without the presumed background. There are one or two conventional flow diagrams and one or two routines written in algorithmic language. There are a lot of diagrams of data

structures, and there are diagrams of information flow. The greatest obstacle to the uninitiated reader will be his inability to implement the data-structure diagrams, who concept that one machine word can point to another by holding its address is taken completely for granted, as one would expect in a student's first year. Yet the fact that less well-informed readers can glean an accurate (though more superficial) impression is not unimportant, for these will include many who have a legitimate concern about efficiency and security in computers, and the reassurance of what is necessary, what is desirable and what is possible in these areas is not here obscured by overlying technicalities. Rather it is ensured that the initiate can read the letter between the lines.

The text is given the same structure as is recommended for the software, which means frequent treatment of "what" and "how", before it is possible to say "why", but gives the exposition the strength of a tried and tested program. After a preliminary chapter on semaphores (a technical term borrowed from railway signalling) the first develops a nucleus of low-level interrupt handler and scheduler.

The second chapter, on memory management, input and output, filing systems, resource scheduling, protection and job control.

Bryan Hignam

Designs on digital data

Analysis and Design of Digital Systems
by Vasil Uzunoglu with James C. Morale
Gordon and Breach, £16.70
ISBN 0 677 04100 4

The first objection to this book is its misleading title. It is not about the analysis and design of digital systems, but is more concerned with particular aspects of digital data transmission system design.

The eight chapters deal with Pulse Code Modulation (PCM), including the need for analogue signal sampling and conversion into a digital code; the design and use of multiplexers; shift register systems for generating codes for data encoding; design of matched filters, equalizers and digital filters; modulation and detection techniques; and phase-locked-loop and bit synchronization techniques.

The three appendices deal with definitions and useful functions in digital communication theory, digital transmission techniques and comparisons and field-effect devices.

The book is supposedly written for design engineers, scientists and students, but I can see no future for it as a student textbook. The author has made the classic mistake of assuming that his audience is as

knowledgeable as he is, and launches into the subject matter on this basis. In chapter one he discusses the advantages of a PCM system before explaining what a PCM system is and what the initials stand for.

There are many errors of fact and unclear statements. For example, the excess-3 BCD cyclic code he describes (page 234) is cyclic, but not an excess-3 code; the code sequence generated by the 4-stage chain code generator is incorrect; the terms Esaki diode and digital matcher are used whereas the accepted terms are tunnel diode and coincidence gate; the autocorrelation function definition (page 444) contains the statement "F is its Fourier transform". It is not clear what "its" is in this sentence.

But when there is so much for which the author thinks very hard about exactly what he wants the book to be: an aid to design engineers or a textbook for students. At the moment it is none of these and I can find no feature to recommend it.

R. G. Bennetts

Electronic background

A First Course in Applied Electronics
by W. Gosling
Macmillan, £2.95
ISBN 333 17174 8

In the preface Professor Gosling states that his book is "a very thorough reconstruction of the original text". The text referred to is, without doubt, *An Introduction to Microelectronic Systems* (McGraw Hill 1962). While his statement may be applied justifiably to chapters eight and nine, it is hardly applicable to the complete book.

Apart from the addition of a short section on transistor biasing in chapter three, the first four chapters are identical except for the use of symbols. In chapter five the first section now includes a comparison of feedback phase angle and second section, on series voltage feedback, has been appended. The third section, on common-emitter feedback, has been removed.

Just of the removal of a paragraph from section five and the addition of a section on working point stabilization.

Chapter eight has various modifications and additions including mention of β parameters, and the section on noise performance has been completely rewritten and section six has been extended to include active filters.

However the revisions have been bonafide giving a book that is suitable as a background reading for first-year students on an electronic degree course; although the continued absence of references for chapters two to eight is surprising and I wonder how the new student will go electronic knowledge capital. The book is written in a style that is clear and concise, with the inference that publications describing the physics and fabrication of semiconductor devices constitute required reading when no guidance or references are given.

D. A. Gregory

After Newton

Applied Electromagnetism
by J. F. Parton and S. J. T. Owen
Macmillan, £8.95 and £4.95
ISBN 333 17993 5 and 15205 0

It is said that the great Sir Isaac Newton was once asked how he came to discover the law of gravitation. His answer was "by thinking about it all the time". It is a splendid answer and one worth pondering, but it is also an answer highly unpopular with students and with those educationalists who purvey instant and painless enlightenment.

Professor Parton and Dr Owen have written a book on electromagnetism, a subject which has many links with gravitational theory. It is likely that Sir Isaac's dictum means that the authors have been thinking about their subject, if not all the time, then at least over a period of many years. The book bears the marks of long experience in teaching. They know how to introduce a topic, how to elucidate it and when to leave it.

It is indeed a difficult subject. Not that the mathematical structure is difficult, although some of it may be unfamiliar. In this connection the opening chapter on vector analysis is valuable, but the difficulty is likely to be in the symbols which well's equations are insignificant to mathematicians. To physicists they are Victorian, and definitely pre-enlightenment. But to electrical engineers they are the code which has to be broken to understand how things work. Things like transformers and waveguides, motors, digital computers. Most electrical engineering courses yield at once to the clamour for hardware, for relevance, for usefulness. Their students become specialists and they know many things, but they do not know this one central thing.

Students at Nottingham are more fortunate it seems. This book takes them through electrostatics, magnetism and electromagnetic waves. At every stage there are examples of actual physical situations accompanied often by clear diagrams. There are also lots of examples to be worked by the reader, a very important aid to understanding. Any one who works through this book will be forced to think and to think again.

Is there nothing to criticize in the book? Very little it seems. I should have liked more of the dual formulation of poles and charges. The authors know the history of their subject and their silence on magnetic poles is strange. Can it be a surrender to the popular demand for realism in science which confuses ideas with pieces of hardware? But when there is so much for which the author thinks very hard about exactly what he wants the book to be: an aid to design engineers or a textbook for students. At the moment it is none of these and I can find no feature to recommend it.

Percy Hammond

Reviewers

John Ash lectures on concrete materials and structures at the University of Birmingham; Graham Beech is author of FORT-RAN IV in Chemistry and co-author of Inorganic Thermodynamics; he is senior lecturer at Wolverhampton Polytechnic;

Francis Cheers has written Elements of Gas Dynamics and is senior lecturer in engineering at the University of Manchester;

Mary Ellison lectures in American history at the University of Keele and is author of Support for Secession and The Black Experience;

D. A. Gregory has written An Introduction to Electrical Instrumentation and is a lecturer at Brighton Polytechnic;

A. Rupert Hall is professor of the history of science and technology at Imperial College London; he is author of The Scientific Revolution, from Galileo to Newton;

Bryan Hignam is professor of computer studies at the University of Lancaster and is working on a book on structures and semantics in natural and artificial languages.

Oxford Engineering Science Series

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Donald R. Rhodes

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Universities

The British Council

invites applications for the following posts:

English Language Adviser (Kuwait)

Medical Faculty, Kuwait University
Duties and 3 years' teaching experience essential;
12% qualification desirable. Required January 1976
or earlier.
Salary: £6095 pa, tax free.
Benefits: free accommodation; two months' annual
passage-paid leave. Two-year contract, renewable.
75 AU 92

Lecturer in Mathematics & Computer Studies (Thailand)

University of Chulalongkorn
Master's degree in Mathematics, preferably PhD and
teaching experience.
Salary: £4688-£6532 pa.
Benefits: overseas and children's allowances; free
furnished housing; medical scheme; employer's portion
of UK superannuation. One- or two-year contract.
75 UT 118

Senior Lecturer in Biological Statistics (Cameroon)

Ecole Nationale Supérieure Agronomique, University of
Yaoundé
Postgraduate degree and substantial experience of biological
statistics in agriculture, animal husbandry, forestry
or similar field essential. Knowledge of French and
overseas experience desirable.
Salary: £4688-£6532 pa, tax free.
Benefits: overseas and children's allowances; free
accommodation. Two-year contract.
75 HU 119

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guaranteed by the British Council.
Please write, briefly stating qualifications and
length of appropriate experience; quoting relevant
reference number for further details and an
application form to The British Council
(Appointments), 65 Davies Street, London
W1Y 2AA.

ANGLIA

THE UNIVERSITY COLLEGE

CHAIR OF STATISTICS

The College Council invite applications for the Chair of Statistics, to be held from 1 September 1976, for a full-time post. The holder will be responsible for the teaching and supervision of students in the Department of Statistics. Further particulars available from the Registrar, in whose application (13 copies) should be sent to the Registrar, Anglia University, 100, Broad Street, Ipswich, Suffolk IP1 1PS, by 15 November 1975.

AUSTRALIA

MACQUARIE UNIVERSITY

SCHOOL OF EDUCATION

ASSOCIATE PROFESSOR IN EDUCATION

Applications are invited for the post of Associate Professor in Education, to be held from 1 September 1976, for a full-time post. The holder will be responsible for the teaching and supervision of students in the School of Education. Further particulars available from the Registrar, in whose application (13 copies) should be sent to the Registrar, Macquarie University, 210, Macquarie Street, Sydney, New South Wales, 2109, by 15 November 1975.

BATH

THE UNIVERSITY

DEPARTMENT OF MATHEMATICS

LECTURER IN MATHEMATICS

Applications are invited for the post of Lecturer in Mathematics, to be held from 1 September 1976, for a full-time post. The holder will be responsible for the teaching and supervision of students in the Department of Mathematics. Further particulars available from the Registrar, in whose application (13 copies) should be sent to the Registrar, Bath University, Bath, BA1 1AY, by 15 November 1975.

BRIGHTON

POLYTECHNIC

Learning Resources

Site Resources Officer-Designate (Falmer)

The person appointed will commence as soon as possible after 30th September 1976 and will take responsibility for the development of the library, media and educational development services at the Falmer site of the Polytechnic (now Brighton College of Education).

Applicants should have experience of dealing with planning development and administration as librarians or supervisors of resource centres in Colleges of Education or other relevant institutions. Besides responsibility for existing and innovative services at Falmer, the person appointed will be part of the development group for Learning Resources across the multi-site Polytechnic.

Salary: Senior Lecturer Scale—£6,031-£8,417 per annum.

Further particulars and application form (please quote 12/11) obtainable from the Bureau, Brighton Polytechnic, Moulsecomb, Brighton BN2 4GJ. Tel. 0273 87304. Closing date 31st December 1975.



DIRECTOR OF COMPUTING

Professorial Salary from £8,000

Requests (quoting ref. THES) for details to Personnel Section, UWIST, Cardiff CF1 3NU.

Closing Date: 12th December, 1975.

AUSTRALIA

MONASH UNIVERSITY

FACULTY OF EDUCATION

LECTURER

The Faculty of Education, Monash University, Victoria, Australia, is seeking applications for the post of Lecturer in Education, to be held from 1 September 1976, for a full-time post. The holder will be responsible for the teaching and supervision of students in the Faculty of Education. Further particulars available from the Registrar, in whose application (13 copies) should be sent to the Registrar, Monash University, 246 Clayton Rd, Clayton, Victoria 3168, by 15 November 1975.

AUSTRALIA

UNIVERSITY OF ADELAIDE

LECTURER IN MATHEMATICS

Applications are invited for the post of Lecturer in Mathematics, to be held from 1 September 1976, for a full-time post. The holder will be responsible for the teaching and supervision of students in the Department of Mathematics. Further particulars available from the Registrar, in whose application (13 copies) should be sent to the Registrar, University of Adelaide, Adelaide, South Australia 5000, by 15 November 1975.

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Universities continued

LEEDS

THE UNIVERSITY

SCHOOL OF ECONOMICS

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MANCHESTER

THE UNIVERSITY

CHAIR OF PSYCHOLOGY

Applications are invited for the post of Lecturer in Psychology, to be held from 1 September 1976, for a full-time post. The holder will be responsible for the teaching and supervision of students in the Department of Psychology. Further particulars available from the Registrar, in whose application (13 copies) should be sent to the Registrar, University of Manchester, Manchester, M13 9PL, by 15 November 1975.

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